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PROCEEDINGS OF THE INTERNATIONAL VIRTUAL CONFERENCE ON **RE-IMAGINING LANGUAGE, LITERATURE, LINGUISTICS AND INDUSTRY DISCOURSE IN THE AGE OF ARTIFICIAL INTELLIGENCE**

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Proceedings of the International Virtual Conference on Re-imagining Language, Literature, Linguistics and Industry Discourse in the Age of Artificial Intelligence

Editors

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Message from the International Advisor

It is my great pleasure to extend my warm greetings to the organizers, presenters, and participants of the **International Virtual Conference on "Re-imagining Language, Literature, Linguistics and Industry Discourse in the Age of Artificial Intelligence."** I sincerely congratulate the Department of Language and Communication, KPR Institute of Engineering and Technology, for organizing this timely and intellectually enriching academic event.

Artificial Intelligence has ushered in a transformative era that is reshaping the ways we teach, learn, research, and communicate. While technological innovations continue to redefine educational and professional landscapes, the disciplines of language, literature, and linguistics remain central to nurturing critical thinking, ethical reasoning, intercultural competence, and human creativity. Conferences such as this provide an excellent platform for scholars across the globe to exchange ideas, explore interdisciplinary perspectives, and develop meaningful collaborations.

I am delighted to note that the conference proceedings bring together diverse research contributions that address contemporary issues and emerging trends in language education, literary studies, linguistics, translation, digital humanities, and AI-enabled communication. I am confident that this volume will serve as a valuable resource for researchers, educators, and students, inspiring further scholarly inquiry and innovation.

I extend my heartfelt congratulations to the editors, reviewers, organizing committee, and all contributing authors for their dedication and academic excellence. I wish the conference every success and hope that it continues to foster international collaboration and impactful research in the years ahead.

Prof. Dr. Md. Maniruzzaman
Professor, Department of English, Jahangirnagar University, Bangladesh

Message from the International Advisor

It is a privilege to offer my best wishes for the successful publication of the proceedings of the International Virtual Conference on "Re-imagining Language, Literature, Linguistics and Industry Discourse in the Age of Artificial Intelligence."

The rapid advancement of Artificial Intelligence presents both exciting opportunities and significant challenges for language education and the humanities. As educators and researchers, we have a shared responsibility to ensure that technological innovations complement, rather than replace, human creativity, critical thinking, and meaningful communication. Academic forums such as this conference provide an invaluable opportunity to reflect on these developments and to identify sustainable, ethical, and innovative practices for the future.

The papers included in this proceedings volume demonstrate the growing commitment of scholars to interdisciplinary research that connects language, literature, linguistics, education, and industry with emerging AI technologies. Such scholarly efforts contribute significantly to the advancement of knowledge and the development of globally relevant educational practices.

I commend the organizing committee, editors, reviewers, and contributors for their outstanding work in bringing together this valuable collection of research. I am confident that this publication will make a meaningful contribution to the academic community and encourage further international collaboration.

I extend my sincere congratulations to KPR Institute of Engineering and Technology for this remarkable initiative and wish the conference continued success in its future editions.

Dr. A. Hamzah Fansury
Associate Professor, English Language Education Department
Bosowa University, Indonesia

Message from the Editorial Advisor

It is a matter of great pleasure to extend my warm greetings to the organizers and participants of the International Virtual Conference on "Re-imagining Language, Literature, Linguistics and Industry Discourse in the Age of Artificial Intelligence." I congratulate the Department of Language and Communication, KPR Institute of Engineering and Technology, for organizing a conference that addresses one of the most significant developments shaping contemporary education and research.

The emergence of Artificial Intelligence has transformed the landscape of language teaching, literary studies, linguistics, and professional communication. As educators and researchers, we must embrace these technological advancements while preserving the human values of creativity, critical inquiry, ethical responsibility, and cultural understanding. This conference provides an excellent platform for academicians, researchers, and industry professionals to exchange ideas, share innovative practices, and build meaningful collaborations across disciplines.

The research papers included in this proceedings reflect scholarly excellence and address contemporary challenges and opportunities in the integration of AI with language, literature, and communication studies. I am confident that this publication will serve as a valuable academic resource for researchers, teachers, and students alike.

I congratulate the editors, reviewers, organizing committee, and all contributing authors for their dedicated efforts in making this conference a success. I wish the conference continued growth and recognition as a distinguished international academic forum.

Dr. T. Pushpanathan

Associate Professor, Department of Humanities and Social Sciences,
Sri Venkateswara College of Engineering (Autonomous),
Sriperumbudur, Chennai, India

Complimentary Note

It gives me immense pleasure to convey my best wishes for the successful conduct of the International Virtual Conference on "Re-imagining Language, Literature, Linguistics and Industry Discourse in the Age of Artificial Intelligence." My sincere appreciation goes to the Department of Language and Communication, KPR Institute of Engineering and Technology, for organizing this forward-looking academic initiative.

Artificial Intelligence is redefining the ways in which knowledge is created, disseminated, and applied across disciplines. In the fields of language education, literature, linguistics, and communication, AI offers remarkable opportunities for innovation while also inviting us to critically examine issues of ethics, inclusivity, and responsible use. Conferences of this nature encourage meaningful dialogue and promote collaborative research that bridges academia and industry.

The proceedings represent a rich collection of scholarly contributions that explore emerging trends, innovative pedagogies, interdisciplinary perspectives, and practical applications of AI in the humanities and language studies. I believe that this publication will inspire further research and contribute significantly to the advancement of knowledge in these rapidly evolving fields.

I extend my heartfelt congratulations to the editors, reviewers, organizing committee, and all contributing authors for their commitment to academic excellence. I wish the conference every success and look forward to its continued impact on the global academic community.

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Dr. T. Jayasudha



With 23 years of dedicated experience in education, I have cultivated a passion for guiding young minds toward becoming responsible, thoughtful citizens of the world. My journey as an educator has been a fulfilling blend of mentorship, discovery, and continuous growth, where each day presents an opportunity to shape the future. My open-mindedness and unrelenting enthusiasm for lifelong learning drive me to evolve with the ever-changing landscape of modern education. As an ardent believer in the transformative power of knowledge, I strive to instil this belief in my students, encouraging them to see learning not just as a phase but as a lifelong journey. As a lifelong learner, I remain deeply committed to my personal and professional growth, constantly seeking new insights, methodologies, and perspectives to enhance my teaching approach. My approach is rooted in the understanding that each student is unique, with their own set of strengths, challenges, and aspirations. With over two decades of experience, I remain as enthusiastic as ever about the impact I can have on my students and the role I play in their growth. My mission is not only to educate but also to inspire and guide my students, equipping them with the skills, knowledge, and values they need to navigate and succeed in an increasingly complex world.

Dr.T. Pushpanathan



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Ms. K. Sharmila



Ms. Sharmila K is an accomplished academician and Assistant Professor of English with over 15 years of experience in higher education. She is currently pursuing her Ph.D. in English under Anna University, Chennai. Her research interests encompass English Language Teaching (ELT), Artificial Intelligence in language education, educational technology, communication skills, and outcome-based education. She has authored and edited academic books, published research articles in reputed national and international journals, and presented papers at conferences. She also serves as a reviewer and editor for scholarly publications and is committed to advancing innovative teaching, research, and academic excellence.

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From Hermeneutics to Neural Networks: The Ontological Shift in Translation Theory

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Abstract

The rapid advancement of artificial intelligence, particularly neural machine translation (NMT), has introduced a profound theoretical challenge to Translation Studies. While twentieth-century translation theory was largely shaped by hermeneutic paradigms that foregrounded human agency, interpretive subjectivity, and cultural mediation, the emergence of data-driven neural systems compels a reconsideration of the very ontology of translation. This paper argues that the current technological shift is not merely methodological but ontological: translation is increasingly conceptualized not as an interpretive act performed by a conscious subject, but as a probabilistic, algorithmically generated output produced through large-scale pattern recognition.

By tracing the movement from classical hermeneutic frameworks – grounded in interpretive philosophy and human intentionality – to contemporary neural architectures based on machine learning, the study interrogates how core concepts such as meaning, equivalence, authorship, and creativity are being reconfigured. Drawing on post humanist theory, digital epistemology, and recent scholarship in AI ethics, the paper examines whether neural mediation displaces, transforms, or reconstitutes the translator's agency. It further explores the implications of algorithmic opacity, data bias, and automation for cultural representation and epistemic authority.

Rather than positioning artificial intelligence as either a threat or a replacement, the study proposes a revised theoretical paradigm that understands translation as a hybrid assemblage of human cognition and computational mediation. In doing so, it contributes to ongoing debates about post human agency and advances a critical framework for rethinking Translation Studies in the age of neural networks.

Keywords: Hermeneutics; Neural Machine Translation; Posthumanism; Algorithmic Mediation; Translation Theory

1. Introduction

The proliferation of artificial intelligence in recent decades has fundamentally altered the dynamics of knowledge production, communication, and cultural exchange. Among its many applications, neural machine translation (NMT) has emerged as one of the most transformative technologies, reshaping how languages interact in a globalized digital environment. Tools such as Google Translate and DeepL now enable instantaneous multilingual communication, challenging traditional assumptions about the necessity of human translators.

Historically, translation has been understood as an inherently human activity grounded in interpretation and cultural negotiation. Theories developed throughout the twentieth century positioned translation as a process requiring subjective

engagement, contextual awareness, and creative mediation. As Steiner argues, translation is not merely linguistic substitution but an interpretive act that involves trust, penetration, and restitution (Steiner 312). Similarly, Gadamer emphasizes that understanding itself is historically conditioned and dialogic, emerging through what he terms a “fusion of horizons” (Gadamer 305).

However, the emergence of neural machine translation disrupts this conceptual framework. Unlike human translators, NMT systems do not interpret texts in a conscious or experiential sense. Instead, they generate translations through algorithmic processes based on statistical probabilities derived from large datasets. Bahdanau, Cho, and Bengio describe this process as a form of sequence-to-sequence learning in which alignment and translation are performed simultaneously through neural networks (Bahdanau et al.).

This shift raises a fundamental question: does artificial intelligence merely augment translation practices, or does it transform the very nature of translation itself? This paper contends that the impact of NMT extends beyond methodology, constituting an ontological shift in how translation is defined and understood.

Recent advancements in large language models further demonstrate the expanding capabilities of AI for multilingual communication, while also raising concerns about interpretive depth and epistemic reliability (OpenAI; Bommasani et al.).

The study adopts an interdisciplinary approach, drawing on translation theory, artificial intelligence research, and posthumanist philosophy. It seeks to (1) trace the evolution of translation theory from hermeneutics to neural models, (2) analyze the transformation of key theoretical concepts, and (3) propose a hybrid framework for understanding translation in AI-mediated contexts.

2. Methodology

This study adopts a qualitative and conceptual research methodology, grounded in interdisciplinary theoretical analysis. Rather than relying on empirical data or corpus-based experimentation, the research employs a comparative and interpretive framework to examine the transition from hermeneutic models of translation to neural machine translation systems.

The analysis is structured across three primary domains: classical translation theory, computational linguistics, and posthumanist philosophy. Foundational texts in hermeneutics are analyzed to establish the traditional conceptualization of translation as an interpretive act, while contemporary research in artificial intelligence and neural machine translation provides insight into algorithmic approaches to language processing (Bahdanau et al.; Sennrich et al.).

Additionally, recent scholarship on large language models and AI ethics is incorporated to critically assess the implications of algorithmic mediation (Bender et

al.; Birhane et al.). The study thus synthesizes theoretical perspectives to develop a conceptual framework that accounts for the evolving ontology of translation in the digital age.

3. Literature Review

3.1 Classical Translation Theories

Translation Studies as a discipline has been shaped by a range of theoretical approaches that emphasize linguistic, cultural, and philosophical dimensions. Early contributions by Eugene Nida introduced the concept of dynamic equivalence, emphasising the effect of translation on the target audience rather than on strict formal correspondence (Nida 159). Similarly, Katharina Reiss and Hans Vermeer's Skopos theory foregrounded the purpose of translation as a determining factor in translation strategies (Reiss and Vermeer 89).

James Holmes' foundational work defined the scope of Translation Studies, distinguishing between theoretical and applied branches (Holmes 172). Gideon Toury later expanded this framework through descriptive translation studies, emphasizing the role of norms in shaping translation practices (Toury 56).

3.2 Hermeneutic Approaches

Hermeneutics has played a central role in conceptualizing translation as an interpretive act. Schleiermacher's distinction between foreignizing and domesticating translation strategies highlights the translator's role in mediating between cultures. Gadamer's philosophical hermeneutics further emphasizes that understanding is historically situated and dialogic (Gadamer 302).

George Steiner's hermeneutic motion provides a comprehensive model of translation as a multi-stage interpretive process (Steiner 312). These perspectives collectively position translation as a human-centered activity grounded in interpretation, subjectivity, and cultural engagement.

3.3 Contemporary Translation Theory

More recent scholarship has shifted attention toward power, ideology, and cultural representation. Lawrence Venuti critiques the "invisibility" of the translator in Anglo-American contexts and advocates for foreignizing strategies that preserve linguistic difference (Venuti 15). Mona Baker and Jeremy Munday provide comprehensive overviews of translation theory, integrating linguistic, cultural, and functional approaches (Baker 22; Munday 45).

3.4 Translation and Technology

The intersection of translation and technology has become a major area of research. O'Hagan highlights the growing importance of digital tools and AI in

shaping translation practices (O'Hagan 3). Neural machine translation, in particular, has been extensively studied in computational linguistics, with research focusing on model architectures, data training, and performance optimization (Sennrich et al.).

3.5 Posthumanism and Digital Epistemology

Posthumanist theory offers a critical framework for understanding the role of technology in knowledge production. Braidotti argues for a decentered conception of the human subject, emphasizing relational and networked forms of agency (Braidotti 55). Similarly, Floridi's concept of the "infosphere" highlights the integration of human and digital systems in contemporary society (Floridi 40). Together, these perspectives provide a foundation for analyzing the ontological implications of neural machine translation.

3.6 Research Gap

Despite the extensive body of scholarship on both hermeneutic translation theory and neural machine translation, a critical gap persists in the integration of these paradigms at an ontological level. Existing studies tend to focus either on the philosophical dimensions of translation or on the technological advancements of machine translation systems. However, few attempts have been made to systematically conceptualize how these frameworks intersect in redefining the nature of translation itself. Moreover, recent developments in large language models and AI-driven translation systems have intensified the need for a unified theoretical approach that addresses both interpretive and computational dimensions (OpenAI; Bommasani et al.). This study seeks to bridge this gap by proposing a hybrid ontological framework that reconceptualizes translation as a posthuman assemblage of human and machine agency.

4. Hermeneutic Foundations of Translation Theory

Hermeneutics conceptualizes translation as an act of understanding rather than mere linguistic transfer. Schleiermacher's framework underscores the interpretive choices involved in translation, while Gadamer's philosophy emphasizes the dialogic nature of understanding.

In this tradition, the translator is not a neutral intermediary but an active participant in meaning-making. Translation involves interpreting the source text within its cultural context and reconstructing it for a different audience. This process requires sensitivity to linguistic nuance, historical context, and cultural specificity. Steiner's hermeneutic motion further elaborates this process, describing translation as a sequence of interpretive acts involving trust, analysis, and restitution (Steiner 312). Such models emphasize that translation is inherently subjective and cannot be reduced to mechanical procedures. However, these assumptions are challenged by

contemporary computational models that operate without human consciousness or interpretive intent.

5. The Emergence of Neural Machine Translation

The development of machine translation has progressed through several stages, culminating in neural machine translation. Early rule-based systems were limited by their reliance on predefined grammatical rules. Statistical models improved performance by incorporating probabilistic methods, but they still struggled with contextual coherence.

Neural machine translation represents a significant advancement, utilizing deep learning techniques to model complex linguistic relationships. Systems based on transformer architectures can process entire sentences simultaneously, enabling more fluent and contextually appropriate translations.

For example, neural translation systems often struggle with culturally embedded idiomatic expressions. A phrase such as “It’s raining cats and dogs” may be translated literally into another language, resulting in semantic distortion. Similarly, studies on machine translation evaluation reveal that even advanced systems produce fluent yet contextually inaccurate outputs, particularly in low-resource languages or culturally specific domains (Freitag et al.; Kocmi et al.). These examples illustrate the gap between linguistic fluency and interpretive understanding, reinforcing the limitations of purely data-driven translation models.

Despite these advancements, NMT systems operate fundamentally differently from human translators. They do not interpret meaning but generate output based on statistical patterns. As Sennrich et al. note, these systems rely on subword units to improve translation accuracy, highlighting their dependence on data-driven modeling rather than semantic understanding. This distinction has important implications for how translation is conceptualized.

6. The Ontological Shift in Translation

The rise of neural machine translation signals a shift from translation as interpretation to translation as computation. This transformation affects several key concepts:

Meaning: In hermeneutic theory, meaning is dynamic and context-dependent. In NMT, meaning is approximated through statistical correlations.

Equivalence: Traditional notions of fidelity are replaced by probabilistic accuracy.

Authorship: The role of the translator becomes ambiguous in machine-generated translations.

Creativity: Machine outputs challenge conventional definitions of creativity as intentional and subjective.

This shift suggests that translation is increasingly understood as a process of data processing rather than human interpretation. The emergence of large-scale language models reinforces the conceptualization of translation as probabilistic generation rather than interpretive understanding, as such systems rely on pattern reproduction rather than semantic cognition (Bender et al.).

7. Posthumanism and Translator Agency

Posthumanist theory provides a framework for understanding the changing role of the translator. Rather than being replaced, translators are repositioned within a network of human and non-human actors. In contemporary practice, translators often engage in post-editing, quality control, and contextual adaptation. These roles require critical judgment and cultural awareness, highlighting the continued importance of human expertise.

As Braidotti argues, posthumanism does not eliminate human agency but redefines it within a broader assemblage of technological systems (Braidotti 89).

8. Algorithmic Mediation and Ethical Concerns

The integration of AI into translation raises several ethical issues:

Opacity: Neural systems lack transparency, making it difficult to understand their decision-making processes.

Bias: Training data may reflect existing inequalities, leading to biased outputs.

Cultural Representation: Machine translation may oversimplify or distort cultural nuances.

Linguistic Inequality: Dominant languages are often privileged in datasets.

Contemporary research underscores that AI systems are not neutral but encode values and biases present in their training data, often reproducing existing cultural and linguistic inequalities (Birhane et al.). Crawford further argues that AI infrastructures contribute to global asymmetries in knowledge production, raising concerns about digital colonialism and representation. These concerns underscore the need for human oversight and ethical accountability.

9. Toward a Hybrid Paradigm of Translation

This paper proposes a hybrid model that integrates human and computational elements. In this framework, translation is understood as a collaborative process involving both human cognition and machine processing. Such a model acknowledges the strengths and limitations of both approaches, emphasizing the need for interdisciplinary research and practice. Scholars such as Kenny and O'Brien emphasize the growing importance of human-machine collaboration, particularly in post-editing practices, suggesting that future translation workflows will increasingly depend on hybrid models of interaction.

10. Discussion

The transition from hermeneutic to neural paradigms of translation reflects a broader epistemic shift in the humanities, where knowledge production is increasingly mediated by computational systems. While hermeneutic theories emphasize interpretation, subjectivity, and cultural situatedness, neural models prioritize efficiency, scalability, and probabilistic accuracy. This divergence raises important questions regarding the nature of meaning and the role of human agency in translation.

One of the central tensions highlighted in this study is the distinction between fluency and understanding. Neural machine translation systems are capable of producing grammatically coherent and contextually plausible outputs; however, their lack of interpretive consciousness limits their ability to engage with cultural nuance and ambiguity. As Bender et al. argue, such systems function as “stochastic parrots,” generating language based on statistical patterns rather than genuine comprehension. At the same time, it would be reductive to view AI as merely a threat to traditional translation practices. Instead, the findings suggest that translation is increasingly becoming a distributed process involving both human and machine agents. This hybridization aligns with posthumanist perspectives that challenge the centrality of the human subject and emphasize networked forms of agency (Braidotti 89).

Furthermore, the integration of AI into translation practices has significant implications for global knowledge systems. While neural translation enhances accessibility and cross-lingual communication, it also risks reinforcing linguistic hierarchies and cultural homogenization. This underscores the need for critical engagement with algorithmic systems and the continued role of human translators as ethical mediators.

Ultimately, the ontological shift identified in this study does not signify the end of translation as an interpretive act but rather its transformation into a collaborative process shaped through the dynamic interaction of human cognition and computational logic.

11. Limitations of the Study

This study is primarily conceptual and theoretical in nature, which limits its ability to provide empirical validation of the proposed framework. It does not include corpus-based analysis, experimental evaluation, or user-based studies of neural machine translation systems. Additionally, the discussion of AI technologies is based on existing literature rather than direct technical implementation or testing.

Future research may address these limitations by incorporating empirical methodologies, such as comparative translation analysis, user studies, or

quantitative evaluation of machine-generated outputs. Such approaches would further strengthen the understanding of the interaction between human and machine translation processes. Additionally, the study does not engage with region-specific or language-specific translation case studies, which may further nuance the theoretical claims.

12. Conclusion

Neural machine translation represents a profound transformation in Translation Studies. By shifting translation from interpretation to computation, it challenges established theoretical frameworks. However, rather than replacing human translators, it reshapes their role within a hybrid system.

Future research must continue to explore the implications of this transformation, particularly in relation to ethics, pedagogy, and interdisciplinary collaboration. This study contributes to the field of Translation Studies by introducing a hybrid ontological framework that reconceptualizes translation as a posthuman assemblage of human and machine agency. By bridging hermeneutic philosophy with contemporary AI research, it provides a critical foundation for understanding translation in the age of neural networks and offers new directions for interdisciplinary inquiry. This reconceptualization positions Translation Studies at the intersection of humanities and computational sciences, making it increasingly relevant in the evolving landscape of digital knowledge production.

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Exploring Gender Dynamics and Identity in D.H. Lawrence's *Women in Love*

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Abstract:

D.H. Lawrence is a pivotal literary figure whose work, particularly *Women in Love*, delves deeply into the intricacies of human relationships. This novel intricately examines the emotional and sexual dynamics between two sisters and their partners, presenting a contrast between flourishing and failing relationships. It explores themes of sexuality and the tension between "industrialism" and nature, highlighting the societal implications of personal connections. Lawrence argues that individual consciousness must align with the "other"—encompassing sensual experiences and interconnected human relations. Set in early modern Europe, the novel underscores the limited opportunities for meaningful interactions between men and women, often sidelining male relationships entirely. The uniqueness of *Women in Love* lies in its complex characters, innovative narrative style, and rich themes, which set it apart from conventional English literature. This exploration seeks to illuminate these distinctive qualities, emphasizing how the novel reflects the cultural landscape of its time while offering a profound commentary on the human experience. Ultimately, while examining personal relationships, Lawrence's work resonates with broader societal issues, making *Women in Love* a significant contribution to literary discourse.

Keywords: man-woman relationships, man-man relationships, sexual dynamics, traditions, early modern Europe.

Introduction

D.H. Lawrence's expansive work intricately explores human relationships, particularly the dynamics between men and women. In *Women in Love*, he examines the complexities of both romantic and platonic relationships, focusing on the emotional and psychological struggles that characterize them. His portrayal of love encompasses not only physical allure but also the emotional nuances shaped by cultural and societal expectations. These revealing conflicts arise when personal desires clash with external constraints. Set against the backdrop of early modern Europe, Lawrence highlights how historical influences impact interpersonal connections, urging readers to reflect on the balance of joy and heartache inherent in intimacy. Through his exploration of miscommunication, differing expectations, and social pressures, Lawrence illustrates the beauty and challenges of relationships, prompting a deeper conversation about the essence of connection in a shifting world. Ultimately, his insights enrich our understanding of the human experience and emphasize the vital role of love in shaping our lives.

(i) Comparison of Character Portrayal:

The narrative presents two groups: the "free" individuals who embody autonomy and pursue personal desires, and the "bound," constrained by societal expectations and limitations that hinder their agency. This division creates conflict as characters navigate their existence between freedom and bondage. Only four characters are accessible, and they are now pursuing their fate through the narrative movement; the other characters, except for Hermione and the elder Crèches, who are "caricatures whose fate is predetermined, are all established in their social positions and inflexible social situations." This dynamic heightens the tension experienced by the four "free" characters. As Gerald and Gudrun confront mortality, their former societal roles weigh heavily on them, leading to a gradual fade into obscurity. In contrast, Birkin and Ursula embrace death's inevitability, thriving amidst it and finding renewed purpose. Birkin specifically wrestles with balancing his desire for independence and the search for meaningful connections.

"I don't believe in the humanity I pretend to be part of, I don't care a straw for the social ideals I live by, I hate the dying organic form of social mankind, so it can't be anything but trumpery, to work at education"(p. 149)"

In the partial repudiation of love, Birkin goes on to insist that he can love and has loved. Now, however, he wants to go beyond, to "an equilibrium, a pure balance of two single beings; - as the stars balance each other." (p. 168)"

The narrative, while ambitious, ultimately falls short, especially in its conclusion, reflecting a deficiency in Birkin's character. While he explores the complexities of human nature, his lack of social context limits our understanding of his emotional pain. In contrast, Gerland offers a refreshing perspective on human relationships in *Women in Love*, where the intricacies of connection remain central to the plot and engage readers effectively. The emotional dynamics between characters invite deeper reflection on love and connection, enhancing our overall reading experience.

(ii) Exploring Form:

Women in Love breaks away from traditional narrative structures, utilizing a fluid composition that unfolds through distinct episodes rather than a rigid framework. This innovative approach invites readers to engage deeply with the characters' inner lives, while the story's coherence emerges from recurring themes and motifs that reflect the complexities of human relationships.

Central to the narrative is the dynamic attraction between Gudrun and Gerald, and Ursula and Birkin, both of whom are entangled in complicated relationships. A pivotal moment arises when Birkin contemplates the deceptive nature of coincidences, revealing a struggle between existence and extinction, with key concepts of Will and Death illustrated through the harsh realities of coal mining and the bohemian lifestyle.

These ideas are embodied in Loerke, an industrial artist representing the tension between creativity and mechanization. Through intricate characters and profound themes, *Women in Love* guides readers through a labyrinth of human emotions and relationships, emphasizing the journey of self-discovery amidst life's complexities.

(iii) Exploring Motifs

The novel's central theme explores the struggle between chaos and harmony through four characters. This theme reflects their emotional journeys of connection and separation, reminiscent of the ebb and flow of tides.

A vivid example is the tumultuous relationship between Birkin and Hermione. Birkin seeks independence from Hermione's influence, leading to a dramatic conflict when she throws a paperweight at him, showcasing their intense emotions. The focus then shifts to Gudrun and Ursula at a railroad crossing with Gerald. Gudrun feels loyalty and intrigue towards him, while Ursula experiences dread from his influence. As the story unfolds, Birkin's melancholic aura contrasts with Ursula's tumultuous emotions, drawing her to him even as she resists. This internal conflict deepens her bond with Hermione, as they both navigate conflicting desires and fears.

In "The Water Party," the theme of mortality drives Gerald and Birkin toward different paths. As Gudrun and Ursula respond similarly, the narrative delves into emotional depth. Ursula yearns for death to escape societal constraints, and her intense feelings for Birkin turn into dark hatred, causing him to withdraw as she faces her turmoil alone.

Later, Birkin suggests a pact of "Blutbruderschaft" to Gerald, but Gerald declines, highlighting individual failure within society. In contrast to Gerald, the elder figure's strong presence complicates their relationship, while the mother's muted influence adds to the dynamics. This trio symbolizes industrial society, exposing its psychological undercurrents and self-sabotaging tendencies.

In the chapter "Rabbit," Gerald and Gudrun observe a vibrant animal and label its erratic behaviour "mad." This insight reveals a shared acknowledgment of an "obscenity" reflecting their inner turmoil.

The "Moony" section delves into Ursula's deep anguish and desire to shed her burdens, showcasing her emotional struggle. Birkin, entangled in chaos and self-destruction, has his internal battles mirrored by the moonlight shimmering on water—a haunting reminder of beauty amid unfulfilled aspirations, emphasizing the significance of our deepest desires.

As the narrative unfolds, Birkin's hopeful proposal to Ursula is rejected, deepening their emotional rift and marking a personal setback for him. His encounter with Gerald reflects their mutual alienation. In the "Gladiatorial" chapter, Lawrence analyses the tensions in human relationships, while "Man to Man" and

"Woman to Woman" explore the alliance between Ursula and Hermione against Birkin.

The chapter "Excuse" marks a turning point for Birkin, prompting introspection that reshapes his view of his relationship with Ursula and reveals the complexities of their bond. Following Gerald's father's death, he embarks on a poignant journey to find Gudrun, where carrying clay from his father's grave symbolizes the connection between loss and love in "Death and Love."

The group's adventure in the frigid Alps exposes them to harsh realities, prompting Ursula and Birkin to seek refuge. Meanwhile, Gudrun challenges Gerald, leading to her manipulative triumph over him. In this climax, Ursula and Birkin emerge from the struggles of the wilderness, their bond strengthened through shared adversity.

(iv) Exploring the Theme:

D.H. Lawrence critiques "moral schemes" in traditional literature, challenging entrenched societal norms and probing complex layers of reality. His work diverges from typical narratives, revealing unspoken truths of human experience through vibrant storytelling that highlights societal contradictions. A key moment occurs when Birkin reflects on Gerald, who, embodying a rugged northern spirit, also carries an unsettling chill of decay. The narrative questions fate and existential awareness, pondering whether Gerald will succumb to "frost-knowledge," a painful understanding of harsh truths. This portrayal prompts readers to explore the link between individual consciousness and societal decay, urging reflection on the consequences of such disconnection.

Birkin was frightened. He was tired too when he had reached this length of speculation. Suddenly, his strange, strained attention gave way; he could not attend to these mysteries anymore. There was another way, the way of freedom. There was the paradisaical entry into pure, single being, the individual soul taking precedence over love and desire for union, stronger than any pangs of emotion, a lovely state of free proud singleness, which accepted the obligation of the permanent connection with others, and with the other, submits to the yoke and leash of love, but never forfeits its own proud individual singleness, even while it loves and yields."

The narrative explores the dichotomy between mortality and vitality, emphasizing the tension between existence and non-existence. Characters are shaped by their struggles and loyalties to either side of this spectrum. Lawrence suggests that in contemporary life, love is often linked with death rather than life. This theme is illustrated through the conflict between Will and Being. Will represents the desire for a complete self, balancing the quest for power with the urge to surrender to disintegration. Lawrence portrays Will as a mechanical construct,

reflecting how an industrialized society reduces personal connections to mere functionality.

Central to this discourse is the essence of existence, which Lawrence argues is rooted in the integration of life's diverse energies. Personal accountability nurtures this connection to oneself and the broader world, influencing perceptions and decisions. Lawrence emphasizes the narrative's capacity to broaden empathetic awareness, moving compassion beyond the mundane. Two key aspects arise: a forward-looking approach that breaks from conventions, allowing new forms of expression, and the effort to engage our "sympathetic consciousness," shaping linguistic choices to foster deeper emotional connections. This interplay enhances the work's impact.

(v) Differences in the Stylistic Approach

The novel's hallmark is its distinctive style, marked by a visionary quality that engages our "sympathetic consciousness." It invites readers to experience the narrative powerfully, akin to music or dance. E. M. Forster admired D. H. Lawrence for his lyrical prose, which conveys profound emotions and relatable characters. Lawrence's evocative descriptions and unique literary voice enhance storytelling, bringing emotions and settings to life, particularly in surreal scenes like group bathing, which leave a lasting impression through light and colour.

The first to run across the lawn was the little Italian, small and like a cat, her white legs twinkling as she went, ducking her head slightly, that was tied in a gold silk kerchief. She tripped through the gate and down the grass, and stood, like a tiny figure of ivory and bronze, at the water's edge, having dropped off her towelling, watching the swans, which came up in surprise. Then out ran Miss Bradley, like a large, soft plum in her dark-blue suit. Then Gerald came, a scarlet silk kerchief round his loins, his towels over his arms. He seemed to flaunt himself a little in the sun, lingering and laughing, strolling easily, looking white but natural in his nakedness. Then came Sir Joshua, in an overcoat, and lastly Hermione, striding with stiff grace from out of a great mantle of purple silk, her head tied up in purple and gold. Handsome was her stiff, long body, her straight-stepping white legs; there was a static magnificence about her as she let the cloak float loosely away from her striding. She crossed the lawn like some strange memory, and passed slowly and stately towards the water."

The pursuit of the ideal often leads to frustration and inconsistency. In this context, a captivating scene unfolds with a trio of women in vibrant, rebellious attire, symbolizing individuality. The tension peaks when Gudrun, a central figure, performs a mesmerizing eurhythmics piece against a backdrop of grazing cattle. Her graceful movements radiate defiance, enchanting onlookers. This contrast between Gudrun's artistry and the mundane farm life highlights the tension between lofty

aspirations and everyday realities. As she expresses herself, the indifferent cows emphasize the characters' isolation in their quest for greatness. This narrative reflects on the human condition, suggesting that the chase for the extraordinary can lead to profound loneliness. The surreal essence of these pursuits creates a haunting atmosphere, blurring the lines between aspiration and isolation, inviting readers to ponder the complexities of ambition, and meaning in life's ordinary moments. This captivating exploration encourages reflection on striving for more in an often-mundane world.

"She put her hand on the arm of her care-worn, sallow father and, frothing her light draperies, proceeded over the eternal red carpet.....And no bridegroom had arrived! It was intolerable for her."

The evolution of style intertwines contrasting language elements, creating a vibrant distinction between the mechanical and organic. This interplay aims to capture the essence of existence, emphasizing that faults often arise from nuanced repetition. It reflects the author's inner struggle, where dynamic exchanges build tension toward a climax. While the pursuit of dialectical themes in syntax may seem flawed, it is a vital part of Lawrence's artistic authenticity, enriching his work with depth and complexity.

Conclusion

A closer examination of the narrative reveals the intricate forces shaping its course, woven through complex relationships that enhance both plot and character development. There are two contrasting romantic connections: one uplifting and the other toxic. As the story unfolds, additional dynamics emerge, some supporting the positive romance while others introduce obstacles that complicate interactions.

The narrative technique in *Women in Love* employs elegant symmetry, deepening the thematic richness and inviting readers into the characters' emotional complexities. Each relationship portrays the balance between love's uplifting forces and the accompanying pain. The tragic event of Gerald's death underscores the vulnerabilities in human interactions, propelling Ursula, and Birkin into a deep, introspective dialogue about their relationship and the nature of love.

Their discussions challenge societal norms surrounding romantic love, prompting reflections on whether conventional constructs can address the profound desires at the core of human experience. As they navigate their fears and uncertainties, the story invites readers to ponder if love can provide the fulfilment we seek or highlight our limitations. Ultimately, it encourages a deeper understanding of interpersonal relationships and the emotional tapestry that defines them, inspiring the pursuit of more meaningful connections.

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Artificial Intelligence in Language Assessment and Feedback: Opportunities and Challenges

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Abstract

In the contemporary era, Artificial Intelligence is bringing in a paradigm shift in English language teaching and learning. Imparting language skills to the second language learners is largely dependent on assessing the learners' performance of their activities and providing feedback that enable them use the language effectively. However, the large classroom sizes and the heterogeneous group of learners often prove to be an impediment in the process of language acquisition as teachers find it difficult to assess individually and provide immediate feedback to the learners. In this context, AI-assisted language assessment tools such as automated essay scoring systems, speech recognition software, and intelligent tutoring systems help teachers give faster and consistent individualized feedback to the learners. Since AI evaluates multiple aspects of language, teachers identify the gaps in the learning process and modify the teaching strategies accordingly. Besides, AI assisted evaluation and feedback promotes learner autonomy and motivates them to improve their language skills. Though AI-driven assessments have several benefits, issues like reliability, bias, data privacy, and teachers' partial involvement in the process can be a threat to the teaching-learning process.

This paper explores the benefits of AI-assisted feedback systems, the pedagogical merits and the challenges associated with their implementation. Alongside, it analyses how language teachers can enhance the learning outcomes using technology as their supportive tool rather than allowing it to dominate the teaching-learning process.

Keywords: Artificial Intelligence, Language Assessment, Automated Feedback, Digital Learning, Educational Technology

Introduction

Technology has significantly impacted English language teaching and learning. Artificial Intelligence, a transformative domain of modern technology, has the potential to minimize the teachers' workload while encouraging learners to develop proficiency in speaking and writing English. In contrast to traditional teaching scenarios, teachers can now devote more time constructively to design language activities, administer assessments, analyse learner performance, and identify gaps in the learning processes, since AI tools analyse effectively language data and provide instant feedback to learners.

Assessment is crucial to language teachers, as it helps them identify the proficiency levels of learners and decide the appropriate teaching methodologies to teach LSRW skills. Since English is learnt as a second language, learners need timely and constant feedback upon the completion of assessment tasks. However,

providing individualized attention to the learners is quite challenging in conventional classrooms. In this context, AI offers the required support to teachers in both assessment and feedback processes.

AI tools with its automated, and data-driven assessment, provide individualized feedback on several functional aspects of English language, which helps learners acquire language skills with accuracy. Recent research shows that AI has the potential to assess learner performance and provide feedback instantly. These automated solutions add objectivity to the learning process. Besides, a study in *Computers and Education: Artificial Intelligence* explains that AI has left a significant "impact on language learning" (2025, p.2). Similarly, a recent review shows that AI-assisted tools are transforming "assessment and feedback practices" in English language teaching. (Israilova, 2025, p.1)

In particular, when teachers integrate AI tools such as Natural Learning Processing (NLP) and machine learning into the learning process, assessment and feedback practices yield maximum benefits.

Literature Review

With the advent of AI, researchers have been exploring the advantages and limitations of these tools in assessment and feedback. Studies prove how Artificial Intelligence, is revolutionising the process of language assessment through Automated Essay Scoring (AES) feedback systems. To start with, deep-learning based AES models identify linguistic patterns and generate accurate scores that enhance the efficiency and consistency of the evaluation processes (Misgna et al., 2025, p.2). Moreover, the large language models (LLMs), such as GPT and BERT assess semantic coherence, which helps learners improve their writing skills. (Li & Liu, 2024, p.2). These technological advancements resemble human evaluative judgement.

Researchers have focused on the impact of AI-driven feedback on second language writing practices. Recent research shows the significance of Automated Writing Evaluation systems (AWE) in providing timely feedback to enhance ESL learners' writing skills (Akhter & Zaman, 2024, pp. 31 - 32). Likewise, studies indicate that AI-supported constant feedback and guided instructions contribute to the improvement of second language learners' writing skills (Wei, 2023, p.5). Furthermore, scholars have analysed the role of AI tools in enhancing writing practices and promoting learner autonomy in English Language learning (Sharmithashini & Hashim, 2025, p.533). On the whole, these studies emphasize the importance of AI tools in fostering independent learning.

Apart from the benefits, the literature highlights challenges connected with AI-assisted assessment. Firstly, AI systems, give more priority to show accuracy in assessment than providing constructive feedback to the learners (Misgna et al., 2025, p.10). Secondly, such systems fail to offer emotional and motivational support provided by the human teachers (Zhou et al., 2025, p.100235). Thirdly, concerns related to algorithmic bias, over-reliance on automated systems, academic integrity and transparency pose challenges to the implementation of AI in educational contexts (Israilova, 2025, p.2). Therefore, it is essential to adopt a hybrid approach in which teachers intervene at regular intervals in the evaluation process to ensure pedagogical effectiveness.

AI-Assisted Language Assessment

In AI-assisted language assessment, machine learning (ML) and natural language processing (NLP) are employed to evaluate learners' language skills and provide them with feedback. These systems can analyze linguistic features related to lexical diversity, syntactic complexity, and coherence. Second language learners require periodic guidance to understand the mistakes that they make while writing and rectify them following the suggestions given to improve their writing skills. In fact, AI-based assessment systems offer detailed feedback on the various dimensions of language such as grammatical accuracy, choice of words, sentence formation, fluency in expressing ideas, coherence and cohesion to improve learners' skills.

Use of AI Tools in Language Assessment

Of late, teachers prefer to use AI-powered tools for assessing and providing feedback in order to cater to the needs of the large numbers of students.

Automated Essay Scoring (AES)

Assessing written texts is often a cumbersome task for teachers. In this context, Automated Essay Scoring (AES) systems prove to be a boon to language teachers, as Mark D. Shermis and Jill Burstein (2013, p.1) view that AES "is the use of specialized computer programs to assign grades to essays". They assess grammar, lexical diversity, and organization of ideas in written texts with the support of algorithms trained on large datasets of essays. Some of these tools, including Grammarly, and QuillBot not only check grammar, punctuation, and style in writing, but also give suggestions for improving the content. Similarly, Turnitin detects plagiarism and offers suggestions for enhancing the quality of the content.

Speech Recognition Systems

Assessing and providing prompt feedback on spoken language needs considerable time and dedicated efforts from teachers. However, AI has simplified this task through its applications such as Duolingo, and ELSA Speak. These tools employ machine learning algorithms to assess oral skills by comparing learners' speech with native speakers' speech patterns. The instant corrections given by such systems help learners improve their spoken language. Recent research too highlights, "AI –powered speech recognition systems... deliver real-time, detailed, and highly personalized pronunciation feedback" (Loor et al., p.5). Above all, consistent feedback Also, the consistent feedback enriches the learners' proficiency in expressing ideas and supports the progress of speaking skills.

Intelligent Tutoring Systems

Language learning is not merely confined to administering tasks and providing feedback. Instead, learners must get exposure to personalized tasks, which, in turn enhance their learning efficiency. Interestingly, Carnegie Learning, an intelligent tutoring system create an adoptive and personalized learning environment, which analyses the learners' performance, identifies their strengths and weaknesses, and design instructional content accordingly. Moreover, they give real time feedback, support learning, and fine tunes the task difficulties based on the learners' progress. Integrating ITS into learning is highly beneficial since it promotes learner autonomy. Recent research affirms this "Intelligent Tutoring Systems ... create personalized learning experiences tailored to the individual needs of students" (Doris et al., 2024, p.1). Indeed, this personalization increases learner engagement and motivation.

Benefits of AI-Assisted Feedback

AI-based assessment proves to be beneficial to both teachers and learners due to its unique features such as instant feedback, personalized learning, reduced teacher work load and consistency in evaluation.

Immediate Feedback

Unlike the traditional assessments, AI systems analyse and provide instant feedback enabling learners identify and correct errors immediately. This reduces misconceptions about language usage and promotes accurate learning. Hence, language learning takes place more efficiently and with greater precision.

Personalized Learning

AI tools provide feedback and design learning materials based on their analysis of the data pertaining to the individual learning patterns, preferences and performance. As a result, learners receive support tailored to their strengths and weaknesses, which enhances their engagement and motivation. In fact, this self-directed learning helps learners progress at their own pace, redo the challenging tasks, and receive continuous feedback that facilitates mastery over the subject.

Reduction in Workload

In the contemporary educational scenario, teachers are required to spend a considerable amount of their time on grading written assignments, making corrections, maintaining student records, and preparing documentation work for accreditation processes. Consequently, they have limited time for engaging themselves in higher level pedagogical activities. However, the integration of AI tools into teaching and learning can reduce teachers' administrative work load enabling them to allocate more time to prepare learning materials, mentor learners, and facilitate discussions that expand the learners' understanding of the functional aspects of English language.

Consistency in Evaluation

The standardized algorithm in AI-based systems not only enables them to be objective, but also ensures consistency and reliability in the assessment process, which is essential for making learning a meaningful process. In contrast, human judgement may occasionally tend to be subjective that may affect the fairness and effectiveness of the entire learning process.

Challenges and Limitations

AI-assisted language assessment presents few challenges and limitations. Generally, AI systems evaluate the responses based on the trained data. But, when they have to assess unfamiliar linguistic patterns, AI systems struggle to give fair evaluation. Naturally, learners whose linguistic and cultural backgrounds are not represented in the data sets, fail to receive proper evaluation. It is apt to quote Bender et al. (2021) who observe, "training data encodes social and cultural biases that can be reproduced in language technologies" (p.610), suggesting the idea that this limitation can lead to biased assessment outcomes.

The next limitation is related to algorithmic bias in evaluation. Generally, AI models prefer to have standardized or widely used language varieties rather than non-native or even creative language usage patterns. As Weidman and Vaessen (2023), rightly view that automated scoring systems "may disadvantage test-takers

whose language use diverges from the patterns present in the training data" (p.84). Hence, algorithmic bias can lead to the loss of credibility in the decision-making process.

Another major concern is preserving data privacy and using AI ethically, because these systems depend more on learner data for assessing the performance. Holmes et al. (2019) refer to the use of AI in education "raises critical ethical issues regarding data ownership, privacy and transparency" (p.45). When institutions and teachers wish to integrate AI-supported assessment into teaching and learning practice, they have to adopt proper measures to ensure that AI use is ethical and responsible.

Role of Teachers in AI-Supported Assessment

Teachers play a vital role in AI-supported assessments as the latter cannot replace pedagogical expertise and contextual judgment of teachers. Since AI systems fail to understand the linguistic nuances, teachers have to act as critical evaluators in reviewing and validating the feedback generated by them. Besides, teachers foster learner motivation and encouragement as AI systems cannot offer emotional support. In addition, teachers have to educate learners to use AI tools ethically, preserve academic integrity, handle carefully issues such as data privacy and misuse. Alongside, teachers can assess AI-generated insights with their professional judgment, leading to a well-balanced and holistic evaluation process. Above all, teachers have to remain at the centre of the AI-supported assessment to ensure fairness, and promote meaningful learning.

Future of AI in language assessment

Language assessment is witnessing a new dimension in the era of AI, since it has started transforming the process of assessment and feedback. Now, the conventional assessment practices are becoming more efficient and learner-centered approaches. As Alsharif (2025) observes, AI supports "automated grading, adaptive testing, and personalized feedback at unprecedented scale" (p.42). This highlights the efficiency of AI in redefining the assessment methods.

Another significant development in AI-assisted assessment is the emergence of real-time and adaptive feedback systems, which analyse learners' performance and provide immediate, personalized feedback, thereby promoting self-paced and autonomous learning. Besides, generative AI and large language models (LLMs) can

generate questions, evaluate responses, and provide feedback with accuracy. This advancement indicates the power of AI to augment both formative and summative assessment in multiple ways.

The future of AI in language assessment depends on solving key issues such as fairness, transparency, and trust. Developers have to make necessary changes in the system to tackle challenges, related to bias and cultural diversities. Moreover, they have to give priority to ethical design and develop inclusive datasets. These efforts can bring forth proper learning outcomes. Apart from these efforts, educators and learners must acquire AI literacy in order to use these innovations responsibly.

AI-assisted systems function well, through the adoption of hybrid approach, in which teachers play a crucial role, in assessing and contextualizing the AI-generated assessment and feedback. Indeed, the integration of AI with human expertise, can redefine traditional assessment practices. Ultimately, it benefits both teachers and learners. Above all, educational institutions must offer training programs at periodical intervals to make teachers employ AI tools effectively for teaching and learning the second language.

Summation

In this digital age, AI-supported language assessment and feedback have redefined English language teaching and learning. These automated tools offer personalized feedback and enhances the language proficiency of both teachers and learners. However, bias, contextual interpretation, and data privacy are quite challenging to the users. Nevertheless, educators can overcome this issue through continuous monitoring and analysis of AI generated assessment and feedback. This proves that human engagement alone can maximise the benefits of AI tools.

The research findings list a few practical implications for educators, institutions, and policy makers. First, teachers must undergo training to get digital and AI literacy. This enables them effectively integrate AI tools into classroom practices. In addition, AI competency make them critically evaluate the AI-generated feedback. Second, measures have to be taken to design inclusive and ethical AI systems that can solve issues related to bias and bring fairness to the assessment process. Besides, both developers and institutions must take care to preserve academic integrity along with prioritizing transparency in algorithmic processes. Third, educators need to adopt a hybrid assessment model, which blends AI-supported assessment and human judgment together. This not only leads to a comprehensive assessment of both lower-order and higher-order skills, but also enhance the quality of language learning and assessment.

To conclude, future research must focus on improving reliability, transparency, and cultural inclusivity of AI-driven assessment practices. Scholars should examine the effectiveness of hybrid assessment models in real classroom scenario and their impact on learners' language development over the course of time. Moreover, there is also a need to advance AI tools so that they can effectively assess the higher-order language skills. Finally, there has to be an extensive research on ethical considerations related to issues such as data privacy, transparency, and user awareness, with a view to responsibly implementing AI in language assessment.

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AI-Assisted Feedback for Enhancing STEM Faculty Communication through Skill Acquisition Framework in Higher Education

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Abstract:

The study explores the integration of AI-assisted language assessment and feedback tools to enhance communicative competence among STEM faculty in multilingual higher education environments. The study aims to examine how AI-driven speech analytics, pronunciation feedback systems, and adaptive learning platforms support the development of fluency, intelligibility, and classroom discourse management. The study is grounded in Skill Acquisition Theory, and Self-Regulated Learning Theory. Drawing on Skill Acquisition Theory, the research conceptualizes AI-mediated repeated practice and automated feedback as mechanisms that facilitate the transition from declarative knowledge to procedural fluency. Simultaneously, Self-Regulated Learning Theory frames AI tools as enablers of self-monitoring, reflection, and strategic improvement. A qualitative approach is employed to evaluate the changes in intelligibility, fluency, and faculty confidence following structured AI-supported training. The findings propose that AI-driven formative feedback can serve as a scalable professional development model, promoting both automaticity in language performance and autonomous learning practices. The study contributes to emerging scholarship on AI-enhanced language pedagogy in higher education.

Keywords: AI-assisted feedback, Skill Acquisition Theory, Self-Regulated Learning Theory, communicative competence, STEM faculty.

I. Introduction

English has become a global lingua franca in many academic disciplines. Recent decades have seen unprecedented movement of students, researchers and teachers who travel to different parts of the world for school, work and conferences. This global mobility combined with the rise of English as a medium of instruction has led to increased reliance on English in academia Science, Technology, Engineering and Mathematics (STEM). (Jennifer Jenkins, 2015; Ernesto Macaro et al., 2018).

Research shows that this adoption may be primarily due to the desire to recruit international staff and students to raise university's profile to compete with other institutions on their limited number of international programs. Sometimes it is to facilitate better communication between diverse groups within a given organization without having to consider all potential negative consequences associated with using new technology during an implementation process (Julie Dearden, 2015).

Communicative competence is thus a multi-faceted construct comprising knowledge of grammar, discourse strategies, sociolinguistic awareness, and strategic competence among other components (Michael Canale & Merrill Swain, 1980). In tertiary education, lecturers are required to possess not only the content knowledge they are teaching but also an ability to elaborate concepts during discussions when it is required by the students, respond to students' questions, or simply manage classroom talk in an intelligible manner. If their command of the medium of instruction is limited in any way, student understanding may be impeded and participation in lecture classes can be restricted (Jennifer Jenkins, 2000).

The emergence of artificial intelligence (AI) in recent times has not only revolutionized language learning and teaching but also professional development. Machines with AI technologies such as automatic speech recognition (ASR), pronunciation feedback systems or conversational chatbots can give immediate oral feedback. It renders possible pronunciation practice, fluency development and correction work without a teacher always in attendance (Richard Godwin-Jones, 2018).

Research has shown that AI-supported language learning environments can lead to much more accurate pronunciation, higher levels of speaking skills and increased motivation among the learners. For example, with the help of AI enhanced speech technologies learners can receive individualised feedback on phonological and prosodic aspects of their spoken language for better speech production (Dmitri Liakin, Walcir Cardoso, & Nataliya Liakina, 2015). Likewise, it has been proven through research that the use of AI based pronunciation training applications helps to improve speech perception and production among learners as they provide systematic practice opportunities and automatic feedback.

Despite these advances, much of the current research is focused on student populations with a paucity of studies investigating the perceptions and experiences of university faculty. Teacher professional development programs seldomly integrate AI-mediated language assessments, despite holding potentials as scalable solutions to improve English language competency for EMI (Ernesto Macaro et al., 2018).

The aim of this study is to investigate the potential usefulness and effectiveness of AI assisted language assessment and feedback tools in developing communicative competence among STEM faculty members in multilingual higher education contexts. More specifically, the objective of this study is to examine the functioning of AI driven speech analytic tools within a context specific domain like intelligibility as perceived by its end users, and to explore how adaptive feedback provided by an automated tool influences improvement among its learners' fluency and classroom communication skills (Robert M. DeKeyser, 2007; Barry J. Zimmerman, 2002).

In order to design their implementation at best for productive usage, a model combining theoretical perspective is adopted from Skill Acquisition Theory (SAT) and Self-Regulated Learning Theory (SRLT) that captures key stages involved in development over time through practice or training until a performance plateau is reached.

II. Literature Review

Artificial intelligence is becoming a disruptive force in language education. It enables applications such as speech recognition software, interactive and dialogue chatbots, and adaptive learning tool which provides an opportunity for learners to practice language skills (Richard Godwin-Jones, 2018; Wayne Holmes, Maya Bialik, & Charles Fadel, 2019). These tools furnish feedback immediately, this helps the learner to see what errors they have made, so that they can avoid further mistakes (Richard Godwin-Jones, 2018).

In recent empirical studies, AI-based tools are proven to improve pronunciation and speaking skills. For example, the research on AI-supported pronunciation teaching showed important improvements in both phoneme accuracy and learner motivation when AI feedback was used in classroom teaching (Dmitri Liakin, Walcir Cardoso, & Nataliya Liakina, 2015). Likewise, language learning chatbots that offer interactive conversation practice have been shown to improve fluency and grammatical accuracy (Richard Godwin-Jones, 2018).

AI technologies also provide language learning support outside the classroom. ASR systems analyze learners' speech, recognize pronunciation errors, and provide feedback that allows learners to practice as often as they wish without an instructor. On the other hand, scholars stress the fact that AI ought to be supportive rather than substitutional when it comes to human instruction (Carol A. Chapelle, 2020). AI systems may offer well-organized feedback and chances for practice, but teacher's directions are still of greater importance in order to put language into context and make the learning process more profound.

Communicative thinking and skills are very necessary for the process of education. Use of language should be appropriate considering all social and professional contexts (Michael Canale & Merrill Swain, 1980). Among other things, in regards to EMI classrooms it's the teacher who should ensure that complex discipline-specific knowledge should reach the students without any hindrance.

Research shows that pronunciation, fluency and intelligibility significantly affect a learner's comprehension based on the instructional input they receive. Miscommunication results in misunderstanding which may result in a reduced academic performance among students (Jennifer Jenkins, 2000). As a result, enhancing faculty communication skills is made top priority in international universities.

Pronunciation training studies highlight the fact that intelligence and good spoken skills is more important for the students than aiming for a native-like pronunciation (Jennifer Jenkins, 2000).

AI learning environments can often lead to self-regulated learning (SRL) which implies that learners have the capability to plan, monitor and evaluate their own learning process (Barry J. Zimmerman, 2002). With this kind of support, learners can easily give feedback to track their progress and development over a specific period of time.

Research has shown that the feedback provided by AI driven systems supports reflection, reduces language anxiety and increases learners' motivation to improve their language skills (Ernesto Panadero, 2017). The link between AI and SRL concerns professional development programs in which participants have to orchestrate their own learning and deliberate practice.

Research Gap

While AI has been studied broadly in student populations, its implementation on faculty professional development all over the world is yet to be investigated through research. A large number of studies concentrate on the undergraduate learners or even in general language education context (Ernesto Macaro et al., 2018).

Moreover, the research on the subject does not take into account the difficulties in communication faced by STEM faculty working in multilingual EMI settings. What is needed are experimental studies which would show how beneficial AI feedback tools might be in improving faculty's communicative competences, especially in the areas of pronunciation, fluency and classroom-management. The study fills this gap by examining the efficacy of AI-assisted language assessment to facilitate improvement in communicative competence among STEM faculty.

Theoretical Framework

Skill Acquisition Theory

Three different learners go through three stages while learning a complex skill – declarative knowledge, proceduralization, and automaticity. Declarative knowledge is where linguistic rules are explicitly acquired by learners, repeated practice gradually changes this knowledge into procedural skill. With time, learners get to the automaticity stage whereby language production is fluent and very little conscious effort is needed (DeKeyser, 2007).

Skill Acquisition Theory states that in order to process language rapidly, the cognitive system must dedicate attentional resources to managing grammar and vocabulary. Repeated practice helps learners restructure underlying knowledge and process them into usable forms. The more proficient the speaker becomes, the less attention is required for producing speech. Consequently, this allows cognitive

resources to be allocated for higher-level learning where complex language is used to study science or teach students how to use language in academic writing (Sheils et al., 2012).

Self-Regulated Learning Theory

Self-Regulated Learning (SRL) Theory highlights learners' responsibility on learning through practices by planning, monitoring, and reflecting. According to Barry J. Zimmerman (2002), good learners determine their learning goals, assess progress in learning, and re-plan strategies to achieve success.

AI-based language learning platforms provide three types of instruments to self-regulate learning and they are performance analytics, automated feedback and progress tracking (Panadero, 2017). These instruments allow learners to monitor their development and identify critical areas for improvement. Hence, SRL theory is used within this study as a lens through which we can understand how AI-mediated feedback can motivate STEM faculty staff to become more reflective and autonomous learners.

2.6 Research Questions

The study addresses the following research questions:

1. Which areas of pronunciation, fluency, and intelligibility see gains after training with ASR feedback?
2. What are the perceptions of faculty members on Ai-mediated feedback in their professional development?
3. How much self-regulated learning did the learners show with respect to the tools?

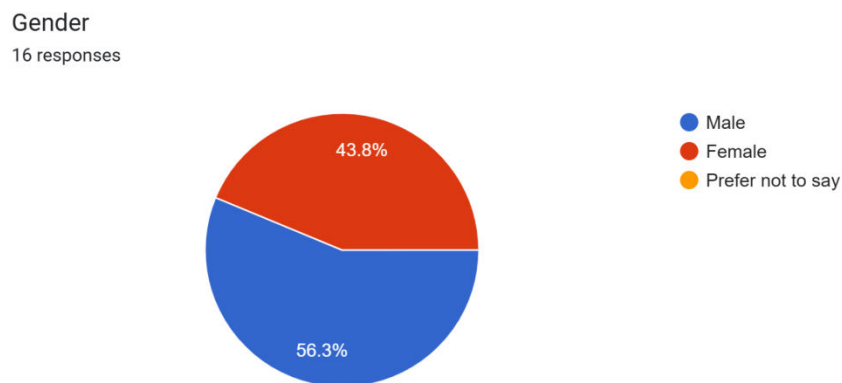
III. Research Methodology

3.1 Research Design

A qualitative research design was used in this study to investigate the impact of AI-assisted feedback on communicative competence development among the STEM faculty within a multilingual higher education context. A qualitative approach was selected to focus on eliciting participants' experiences, perceptions and reflections with regards to the integration of AI supported language assessment tools. The intervention consisted of a one-week organized training during which, through the use of an AI-based speech analysis platform, participants carried out speaking exercises and obtained automatically generated feedback on pronunciation, fluency and speech clarity that helped them become aware about their communicative performance and helped them to enhance their spoken language.

3.2 Participants

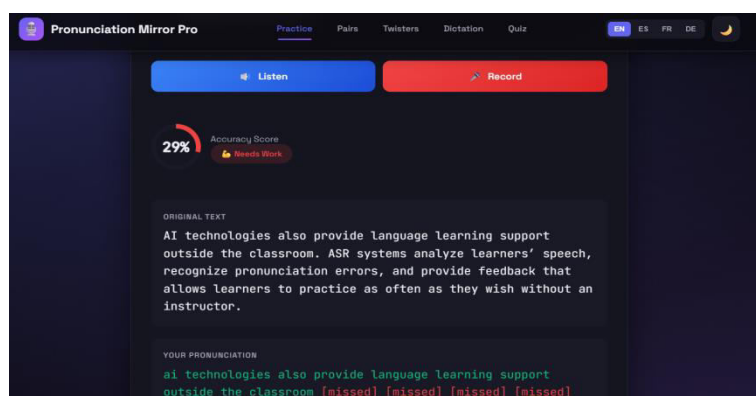
The sample for the study consists of 16 STEM faculty members, teaching through English as a medium of instruction. They all have some other regional language as their mother tongue, and are non-native speakers of English. Participants for the study were selected using purposive sampling as the study was limited to only those faculty members who use English language as a medium of instruction in classroom teaching. Instructors from various technical disciplines such as engineering, computer science and applied sciences were considered for the present study. This helped in obtaining appropriate representation from different STEM disciplines and also helped to understand the communication predicaments experienced by these faculty members in technical education.



3.3 Instruments

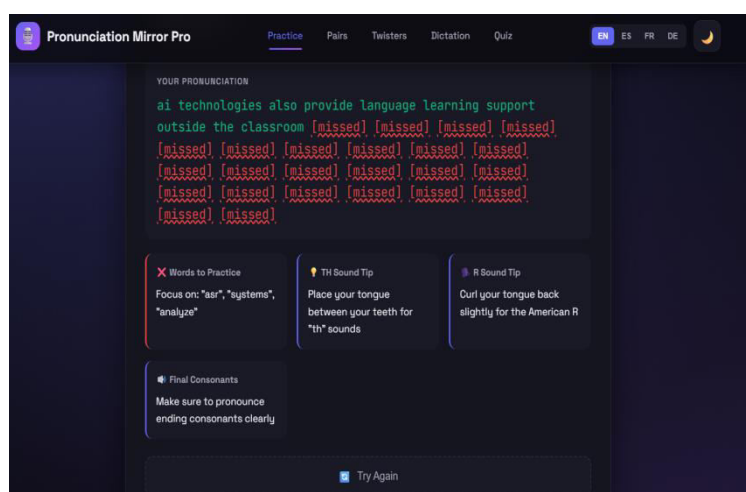
AI Speech Analysis Platform

The main tool used in this research is Pronunciation Mirror Pro, it is an AI based free online speech analytical tool to measure spoken English. This website automatically recognizes the pronunciation accuracy as well as the fluency and clarity of speech. Using this platform, the participants were asked to complete speaking tasks and then they received automated feedback from the system with respect to their pronunciations pointing out the errors made in their pronunciation, fluency and letting them know what they should improve. Based on this feedback, participants had a chance to do another take of the same speaking task in order to adopt better communicative performance.



Communicative Competence Rubric

A communicative competence rubric was designed to evaluate different dimensions concerning Pronunciation (clarity), Fluency (pauses), Intelligence and Classroom communication (engagement with the robotic partner). It was used in the study to analyse the feedback provided by the system and to assess subjects' oral production.



Semi-Structured Interviews

Semi-structured interviews were conducted at the completion of the training programme to investigate participants' perceptions regarding AI-assisted learning process. More specifically, interviews inquired about their experience with the use of the AI tool, perceived communication skill enhancement and utility of AI-based feedback for professional development.

3.4 Data Analysis

The responses provided by the participants were reviewed carefully and categorized into recurring ideas and patterns in order to reflect their experiences with the AI-assisted speech feedback tool through thematic analysis of the qualitative data obtained from semi-structured interviews. The responses to the

interviews were read repeatedly until patterns in participant's perceptions of AI-based training began to emerge. Statements were clustered around common themes like, pronunciation improvements, increased confidence in communication and usefulness of automated feedback. Thematic analysis allowed the researcher to read into participants' perceived experiences and implications on their communicative competence due to feedback generated by AI. The qualitative research is used for identifying patterns in textual data and reading between lines of what the participants say (Virginia Braun & Victoria Clarke, 2006).

3.5 Justification of Analytical Method

A qualitative analytical approach was used since the study was primarily focused on comprehension of AI-assisted language feedback interpretation and experienced by STEM faculty. Linguistic features which are measurable are not the only components of communication skills, confidence perception, clarity perception, and professional communication are also part of it. Thematic analysis helped to catch these experiential dimensions by recognizing certain patterns of the reflections and feedback obtained from the participants. This approach was helpful in getting detailed insight in connection with how language assessment supported by AI can be helpful in communicative competence and professional development among STEM faculty.

IV. Results and Discussion

4.1 Observed Improvements in Communicative Performance

There was significant improvement in communicative performance as evidenced by feedback generated from the PMP system over the one week period of training. By engaging in speaking tasks followed by automated feedback learners could notice mispronunciations and remedy them on subsequent practice opportunities. The AI has been able to provide instant feedback that allowed many lecturers to correct themselves on the areas they went wrong in terms of pronunciation. The repeated application of this technique facilitates the attainment of both clarity, as well as fluency while dealing with speech tasks. Such results offered by AI tools developed for pronunciation can help enhance language and speech performance based on feedback provided in real time (Godwin-Jones, 2018).

4.2 Qualitative Findings

Immediate Feedback

Participants would never have realized pronunciation errors on their own if they had not appreciated immediate feedback the AI tool offers to its users. With the conventional training, feedback is normally given after some days or weeks but with the AI platform the faculty could identify pronunciation errors immediately and try

to correct them. A good number of participants actually stated that this immediate response made them practice more efficiently and hone their speaking skills.

Increased Confidence in Communication

Another major theme that emerged from the interview was increased confidence in classroom communication. Several participants mentioned that over a period of time, regular practice using AI tools helped in gaining confidence while speaking in English and they were able to express ideas related to their subject and interact with students during classroom teaching.

Self-Monitoring and Reflective Practice

Participants also emphasised the role of AI as a tool for promoting self-monitorization. The platform allowed faculty members to see how they performed and repeated several speaking tasks until they were satisfied. This was in itself, a form of reflective learning in which participants could engage actively to improve their communicative competence.

4.3 Data Summary

Automated pronunciation assessment tools such as Pronunciation Mirror Pro may help to enhance communicative competence among STEM faculty with features like automated feedback, performance monitoring, and practice opportunities provided by the tool. Furthermore, the study shows that AI-supported language learning environments foster self-regulated learning and enable faculty to engage actively in enhancing their communication skills. This suggests the potential usefulness of AI-based feedback system as an effective means for professional development in multilingual higher education.

V. Conclusion

The study concludes by stating that AI-enhanced speech analysis tools such as Pronunciation Mirror Pro can be an effective medium to improve communicative competence among STEM faculty working in a multilingual educational context. The results indicate that AI-provided feedback can assist participants in becoming aware of their pronunciation errors so that they could successfully work on them while engaging in repeated practice opportunities. The study also shows that AI-assisted learning favors reflective practice and self-monitoring, which in turn enhances communicative confidence among faculty members.

The results are congruent with the theoretical assumptions of Skill Acquisition Theory and Self-Regulated Learning Theory, where practice and learner are in a central position which is considered a key variable to develop a skill. Though the sample size is small, and the training period is short, AI based tools are

easily accessible to everyone, especially for faculty professional development. Investigating bigger samples and prolonging interventions would be possible research perspectives in order to shed more light on how effective AI assisted feedback could be for improving communicative competence in higher education.

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The Impact of AI Tools in Special Education Classrooms: A Comprehensive Review

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Abstract

Artificial Intelligence (AI), encompassing technologies from intelligent tutoring systems to generative AI, presents a transformative opportunity to enhance learning for students with disabilities and alleviate systemic challenges in special education. This paper provides a comprehensive review of the multifaceted impact of AI tools in special education classrooms. It synthesizes existing literature to highlight significant benefits, including the provision of highly personalized learning experiences, enhanced accessibility and communication for diverse learners, and the streamlining of administrative tasks such as Individualized Education Program (IEP) development, thereby mitigating teacher workload. Furthermore, AI tools have been shown to boost student engagement and improve academic outcomes by adapting to individual needs and providing real-time feedback.

However, the integration of AI is not without its complexities. Critical challenges and ethical considerations include safeguarding student data privacy and security, addressing algorithmic bias that could perpetuate inequities, ensuring adequate teacher readiness and professional development, mitigating the risk of over-reliance on technology at the expense of human interaction, and overcoming infrastructure and funding disparities that create accessibility barriers. The paper also explores the varied perspectives of key stakeholders—special education teachers, students with disabilities, and parents—revealing both enthusiasm for AI's potential and concerns regarding its implementation. Ultimately, while AI offers substantial support, its effective and equitable integration demands thoughtful planning, robust empirical research, continuous professional oversight, and the development of inclusive policies to ensure it truly benefits all students with disabilities and fosters a more empathetic educational environment.

Keywords: Artificial Intelligence, Special Education, Inclusive Education, Personalized Learning, Assistive Technology, Individualized Education Programs (IEPs), Teacher Workload, Data Privacy, Algorithmic Bias, Student Engagement.

1. Introduction

1.1. Background: Challenges in Special Education and the Emergence of AI

Special education systems globally contend with persistent, multifaceted challenges. These include the substantial workload faced by teachers, the imperative for highly individualized support for students with diverse learning needs, and a persistent achievement gap between students with disabilities and their general education peers.¹ The sheer scale of this challenge is immense; an estimated 240 million children worldwide live with disabilities, with approximately half of them entirely out of school. Those who are enrolled often lack adequate support, underscoring a pressing need for innovative solutions.⁴

Artificial intelligence (AI), broadly defined as a branch of computer science focused on building technology capable of complex tasks resembling human thought—such as natural language processing, reasoning, problem-solving, and adapting to new circumstances by identifying and extrapolating patterns—has emerged as a promising tool to address these long-standing disparities.¹ The rapid evolution from early, data-centric AI applications, such as intelligent tutoring systems and learning analytics, to more advanced generative AI, represents an unprecedented opportunity to fundamentally transform teaching and learning, particularly within the specialized context of special education.¹ AI's potential applications in this field are vast, including automating routine administrative tasks, strengthening the development and implementation of Individualized Education Programs (IEPs), providing adaptive interventions tailored to diverse learner needs, and significantly increasing teacher efficiencies.¹

The emergence of AI in special education marks a significant progression in technological support. Historically, assistive technology (AT) focused on addressing specific functional needs, such as mobility, communication, or sensory support. AI-based systems, however, expand these capabilities to personalize and enhance learning for students through predictive assistance and real-time adaptation. The transition to generative AI further amplifies this potential by facilitating the creation of dynamic content, natural language processing, and tailored support for diverse learning needs.¹ This represents a fundamental paradigm shift, moving beyond static tools for functional needs to dynamic, adaptive, and predictive systems that personalize and enhance the entire learning experience.

Furthermore, AI's potential extends beyond individual classroom aids to address deeply entrenched systemic issues in special education. The technology is positioned not merely as an incremental improvement to existing educational practices but as a potential solution for chronic teacher workload and persistent achievement gaps.¹ If AI can genuinely mitigate these structural deficiencies, its impact extends far beyond individual student outcomes to the overall sustainability, efficiency, and equity of the special education system itself. This suggests that AI's true transformative value may lie in its capacity to foster a more sustainable and equitable educational infrastructure.

1.2. Purpose and Scope of the Research Paper

This research paper aims to comprehensively review the impact of AI tools in special education classrooms. It will provide an in-depth analysis of both the significant benefits and critical challenges associated with their implementation. The scope encompasses synthesizing current research and expert opinions to offer a balanced perspective on AI's evolving role in enhancing inclusive education,

supporting students with disabilities across various needs, and empowering educators to deliver more effective and personalized instruction.

2. The Transformative Potential of AI in Special Education Classrooms

Artificial intelligence is poised to revolutionize special education by offering unprecedented opportunities for personalized learning, enhanced accessibility, streamlined administrative tasks, and boosted student engagement. These capabilities collectively contribute to a more inclusive and effective educational environment for students with disabilities.

2.1. Personalized Learning and Adaptive Technologies

A core application of AI in special education is the development of AI-driven adaptive learning platforms. These systems utilize machine learning models, natural language understanding, and real-time data processing to dynamically generate, deliver, and adjust lessons, provide feedback, and assist learners in the most effective and individualized manner.⁶ They excel at tailoring educational content to each student's specific needs, continuously adjusting the pace, difficulty, and instructional focus based on their individual strengths, weaknesses, and preferred learning styles.¹ For instance, AI-powered math programs can observe a student's work patterns in real-time, precisely identifying where the learning process breaks down for students with dyscalculia, and then adapt interventions accordingly.¹⁰

Intelligent Tutoring Systems (ITS) exemplify this personalization, leveraging AI to deliver tailored instruction, real-time feedback, and adaptive content by continuously analyzing a student's current knowledge, learning pace, and preferred learning style.¹ These systems can effectively identify specific areas where a student struggles, such as reading comprehension, and then offer targeted exercises to advance those skills, promoting deeper understanding and retention.¹¹ The ability of AI to provide personalized content delivery and varied communication methods directly aligns with and significantly enhances the principles of Universal Design for Learning (UDL). This moves AI beyond mere accommodation to proactive inclusion by providing multiple means of representation, action and expression, and engagement at scale.¹ AI's dynamic adaptation capabilities mean it can implement UDL with a level of precision and scalability previously unattainable, making it a truly powerful tool for fostering genuinely inclusive educational environments.

2.2. Enhancing Accessibility and Communication

AI significantly enhances accessibility by enabling the provision of adapted learning materials, including detailed image descriptions for visually impaired students and accurate audio transcripts for those with hearing impairments, fostering greater inclusion.¹ AI-powered assistive technologies (AT), such as

advanced screen readers, eye-tracking devices, and speech input systems, are designed to adapt dynamically to diverse student needs, offering more intuitive and responsive support.¹

Communication barriers, a significant challenge in special education, are effectively broken down through sophisticated AI-powered speech-to-text (STT) and text-to-speech (TTS) technologies.¹ Specialized tools like Voiceitt can learn and adapt to unique, non-standard speech patterns, enabling students with speech difficulties to communicate more clearly and participate effectively in classroom discussions and writing assignments.⁸ Modern AI readers, such as Microsoft's Immersive Reader, go beyond simple text conversion by adjusting reading speed based on content complexity, highlighting words for comprehension, and even modifying voice tone and emphasis to maintain student engagement.⁸ Real-time language translation tools further facilitate communication in multilingual classrooms, ensuring that language barriers do not impede learning for students from diverse linguistic backgrounds.⁴

2.3. Streamlining Teacher Workload and Individualized Education Program (IEP) Development

AI significantly alleviates the administrative burden on special education teachers by automating routine tasks such as grading, student progress tracking, and general administrative duties. This efficiency gain frees up valuable time, allowing educators to dedicate more focus to direct instruction, personalized pedagogical support, and building meaningful relationships with students.¹ This represents more than just time-saving; it is a shift in the teacher's cognitive load, allowing them to engage in higher-order pedagogical functions. AI can act as a "force multiplier" ²⁸ for educators, amplifying their capacity and transforming their role from primary content deliverers to strategic facilitators, data-informed decision-makers, and relationship-builders.

AI tools are proving instrumental in supporting the complex and time-consuming process of Individualized Education Program (IEP) development. They can automate aspects of procedural compliance, such as drafting meeting agendas, summarizing extensive meeting notes, and drafting sections of the IEP document, thereby reducing paperwork.¹ Initial studies indicate that AI, specifically tools like ChatGPT, can significantly improve the quality of IEP goals. For example, a preliminary study found that special education teachers who used ChatGPT to write IEP goals for preschool students with autism wrote higher-quality goals compared to those who did not use the AI tool.¹ Beyond drafting, AI can generate IEP snapshots to simplify complex IEPs, create tailored summaries and related resources for parents and guardians, and assist in modifying curricula (e.g., adjusting reading levels of texts).¹ Advanced initiatives, such as the University of Wyoming's CoIEP,

are utilizing multi-agent AI systems to streamline the entire IEP development and evaluation process, further reducing teacher workload and enhancing plan quality by allowing human teams to focus on substantive compliance.³⁰

2.4. Boosting Student Engagement and Academic Outcomes

AI-powered tools are transforming learning environments into dynamic and engaging spaces by creating truly customized learning experiences. Adaptive systems analyze student performance in real-time and adjust content, difficulty, and teaching methods accordingly, keeping students engaged at the optimal challenge level.³ AI systems provide powerful analytics that help teachers monitor student progress dynamically. They can identify subtle patterns that might be difficult for a human teacher to spot (e.g., struggling with reading comprehension in the afternoon) and suggest tailored interventions, allowing for proactive support before minor challenges escalate.⁸

The combination of improved communication tools and highly personalized learning environments fosters greater independence and confidence in students with disabilities. This empowerment enables them to participate more fully in classroom activities, express their thoughts more easily, and demonstrate their knowledge in ways that best suit their individual learning styles, ultimately creating more inclusive educational settings.³ Systematic reviews and studies consistently indicate that AI-driven technologies significantly enhance students' academic performance, improve communication skills, aid in emotional regulation, and even support physical mobility by providing tailored interventions that address individual needs.¹⁸ Specifically, AI-powered adaptive learning systems have been shown to achieve higher engagement, understanding, and memory in students with learning disabilities, thereby effectively lessening the educational gap between them and their peers.⁶

Table 1: Key AI Tools and Their Applications in Special Education

AI Tool/Category	Specific Examples	Primary Application in Special Education	Key Benefit for Students/Teachers
Intelligent Tutoring Systems (ITS)	ALEKS, Q-interactive	Personalized instruction, adaptive learning pathways	Tailored learning pace, deeper understanding, consistent feedback
Adaptive Learning Platforms	DreamBox, Carnegie Learning, Smart Sparrow, SchoolAI	Dynamic content adjustment, real-time performance analysis	Optimal challenge level, increased engagement, confidence building
Speech-to-Text	Voiceitt, Microsoft	Communication	Breaking

(STT) / Text-to-Speech (TTS) Technologies	Immersive Reader, Speechify, NaturalReader	support, reading assistance, writing enhancement	communication barriers, improved comprehension, participation
Generative AI for Content/IEPs	ChatGPT, CoIEP, Magic School AI, Eduaide.AI, Education CoPilot, Diffit	Administrative efficiency, curriculum adaptation, IEP development	Reduced teacher workload, improved IEP quality, customized materials
Behavioral Intervention Tools	Class Dojo	Behavior tracking, pattern identification	Effective behavioral interventions, proactive support
AI-driven Analytics	SchoolAI's real-time data analytics	Data-driven insights, progress monitoring	Early identification of learning gaps, timely interventions, informed decisions
Virtual/ Augmented Reality (VR/AR)	Google Expeditions	Immersive learning environments, simulation of real-life scenarios	Enhanced engagement, experiential learning, safe practice environments
Augmentative and Alternative Communication (AAC) Devices	AI-enhanced AAC devices	Facilitating communication for nonverbal students	Clearer communication, increased participation in discussions
Assistive Technology for Vision	OrCam MyEye	Object and text recognition, navigation assistance	Enhanced independence, improved environmental awareness

3. Challenges and Ethical Considerations in AI Implementation

While the transformative potential of AI in special education is significant, its implementation introduces a complex array of challenges and ethical considerations that demand careful attention to ensure equitable and beneficial outcomes for all learners.

3.1. Data Privacy and Security Concerns

AI systems in education necessitate the collection of various types of sensitive student data, including personal information, academic records, and behavioral patterns. This poses significant privacy risks, such as unauthorized access, data

breaches, or the potential misuse of student information for purposes beyond education.¹ A lack of clear policies regarding data management has already raised significant concerns among parents regarding privacy and the potential misuse of their children's information, highlighting the urgency for comprehensive guidelines.¹⁵

Ensuring informed consent and transparency is crucial. Educational institutions must clearly explain to students and parents what data is being collected, how it will be stored, and for what purposes it will be utilized to build trust and ensure ethical data handling.¹ Strict data protection protocols, including end-to-end encryption, regular security audits, robust access controls, and the anonymization of student data, are paramount. Compliance with relevant privacy laws, such as FERPA, is essential to safeguard sensitive information.¹

3.2. Algorithmic Bias and Equity Issues

Bias in AI outcomes can arise from inherent problems within the training data (e.g., lack of diverse perspectives, perpetuation of societal inequalities) or from flaws in the system's design and programming.¹ This bias can manifest in various educational contexts, leading to unfair grading systems, admissions decisions that unintentionally exclude certain groups, or learning tools that perform better for some demographics than others, disproportionately affecting students with disabilities.³¹ For example, automated speech recognition systems may struggle to accurately interpret the unique speech patterns of individuals with speech impairments, largely due to their underrepresentation in the datasets used to train these AI systems.³⁶

Many AI systems currently adopt a "one-size-fits-all" model, which fails to account for the diverse needs of students with disabilities, including the wide range of accommodations they may require. This can inadvertently penalize students who deviate from expected "normative" responses or learning styles.³⁶ Addressing bias requires a proactive approach, including initiatives to gather more diverse and representative training data, ongoing bias testing using datasets that reflect real-world diversity, and continuous monitoring of model performance across different subgroups.³⁶

3.3. Teacher Readiness, Training, and Professional Development Needs

A significant challenge is that many educators, including special education teachers, report feeling unprepared to effectively integrate and leverage AI tools within their teaching practices, indicating a substantial gap in current professional development.¹ The lack of adequate technological infrastructure within schools, coupled with insufficient specialized teacher training, presents a significant obstacle to successful AI implementation.⁹

Teachers' self-efficacy regarding AI use varies considerably, influenced by factors such as their prior experience with technology, their perception of AI's relevance to their specific teaching practices, and the availability of institutional support.⁴⁰ While many teachers acknowledge the potential role of AI in their professional development, a segment of teachers remains skeptical about the full scope of benefits offered by this technology.⁴¹ Effective integration necessitates targeted professional development interventions that include training on recognizing and mitigating AI bias, as well as practical guidance on effective AI prompt generation to optimize outputs.¹ The evolving landscape of AI requires teachers to adapt their roles, transitioning into "tech-savvy facilitators" who can master new platforms, interpret data for personalized interventions, and seamlessly blend technology with traditional pedagogical methods.¹³

3.4. Risk of Over-Reliance on Technology and Diminished Human Interaction

A primary drawback of AI integration is the risk of over-reliance on technology, which may inadvertently reduce crucial human interaction – an essential aspect of building trust, rapport, and providing emotional support in special education settings.¹⁰ AI tools, despite their sophistication, are not infallible and may not always fully comprehend or adequately address the complex emotional, social, and nuanced learning needs of students with disabilities, which are inherently difficult for algorithms to replicate.¹³ The irreplaceable human element, encompassing empathy, intuitive understanding, and the fostering of social skills, remains vital for holistic student development and cannot be substituted by technology.¹⁰

The consistent emphasis on the necessity of human oversight¹ and the explicit warnings against over-reliance on technology¹⁰ highlight a fundamental design principle for ethical AI in special education: AI must augment human capabilities rather than replace them. The most effective AI implementations will be those that empower educators and students, keeping human judgment and interaction at the core. For instance, "only human members of an IEP Team can ensure that an IEP is designed to substantively match a student's needs"¹, and "teachers remain at the helm of major instructional decisions".¹ The CoIEP system explicitly incorporates a "keeping-humans-in-the-loop (HITL) function".³⁰ This consistent message underscores that AI's primary value is in assisting and informing human decision-making, not in autonomously taking over critical educational functions. The "human-in-the-loop" concept is therefore a critical ethical and practical imperative, ensuring that accountability, empathy, nuanced understanding, and the irreplaceable human connection remain central to the special education process.

3.5. Infrastructure, Funding, and Accessibility Barriers

The high costs associated with developing, implementing, and maintaining AI-driven tools can be a significant barrier, particularly for underfunded school districts. This financial hurdle often creates disparities in access to these innovative resources, exacerbating existing educational inequalities.⁹ A lack of essential digital devices and reliable internet connectivity further restricts participation for students in vulnerable situations, deepening the "digital divide" and hindering equitable access to AI-enhanced learning opportunities.¹⁵

Current AI-driven digital systems often specialize in addressing only one type of disability, despite the reality that disabilities are diverse, range from mild to severe, and frequently involve combinations of different conditions. This highlights a need for more comprehensive and adaptable solutions.⁹ The geographic focus of current AI research in special education is uneven, with a majority of studies concentrated in developed countries. This overlooks the specific challenges and unique needs of implementing AI in resource-constrained environments, limiting the generalizability and applicability of findings.¹⁸ The pervasive challenges related to funding, technological infrastructure, and digital skills ⁹ indicate that AI, if not implemented with a strong focus on equity, could exacerbate existing educational inequalities. This implies a significant societal implication where already vulnerable student populations in underserved areas might be further marginalized without targeted policy interventions.

Table 2: Ethical Considerations and Mitigation Strategies for AI in Special Education

Ethical Concern	Description of Concern	Mitigation Strategy
Data Privacy and Security	Collection of sensitive student data (personal, academic, behavioral) and risks of unauthorized access, breaches, or misuse.	Anonymization/de-identification of data; robust security protocols (end-to-end encryption, regular audits); strict access controls; compliance with privacy laws (e.g., FERPA); transparent data policies.
Algorithmic Bias	Skewed or unfair outcomes due to unrepresentative training data, flawed design, or embedded societal inequalities, disproportionately affecting students with	Use diverse and representative training data; conduct continuous bias testing; provide educator training on bias awareness and effective AI prompt engineering.

	disabilities.	
Accountability and Human Oversight	Unclear responsibility for AI errors or harmful recommendations; potential for AI to replace, rather than augment, human judgment.	Emphasize human-in-the-loop models; establish clear lines of responsibility for AI outputs; ensure professional discretion remains paramount in decision-making.
Transparency and Informed Consent	Lack of understanding among stakeholders about how AI functions, processes data, or influences educational decisions; absence of explicit permission for AI use.	Clear and consistent communication with students and parents about AI's role; obtain explicit consent for AI-driven technologies; advocate for explainable AI systems.
Risk of Over-Reliance on AI	Diminished crucial human interaction, empathy, and social skill development; AI's inability to fully address complex emotional and social needs.	Maintain a human-centric approach; balance technological support with personal connection; focus on augmenting the educator's role rather than substituting it.
Equitable Access	Disparities in technology access due to high costs, inadequate infrastructure, and lack of digital skills, creating a "digital divide."	Invest in technological infrastructure and digital devices for underserved areas; provide funding for AI tool implementation; develop inclusive design principles; offer comprehensive teacher and family training.

4. Stakeholder Perspectives on AI in Special Education

The successful integration of AI in special education hinges significantly on the perceptions and experiences of key stakeholders: special education teachers, students with disabilities, and their parents. Their varied viewpoints offer crucial insights into the practical implications and acceptance of these technologies.

4.1. Special Education Teachers' Perceptions and Experiences

Special education teachers generally hold positive attitudes toward the potential of AI in education ⁵, viewing it as a powerful tool to amplify their strengths, save valuable time, and enhance their creative approaches to instruction.⁴³ They perceive AI as a robust augmentation for learning, capable of analyzing vast

educational data sets, adapting curricula to individual learning speeds, and providing highly targeted support for students with special needs.⁴² AI tools are seen as beneficial for streamlining various pedagogical tasks, including lesson planning, generating rubrics, providing feedback, and creating diverse instructional materials.²³

Despite this positive outlook, concerns exist regarding AI's potential impact on student learning outcomes and the integrity of assessment processes.⁴⁰ Teachers' self-efficacy in using AI varies considerably, influenced by factors such as their prior experience with technology, their perceived relevance of AI to their specific teaching practices, and the availability of adequate institutional support and training.⁴⁰ While many acknowledge AI's role in their professional development, a segment of teachers remains skeptical about the full scope of benefits offered by this technology.⁴¹ A potential downside highlighted is the shift in teacher roles: as AI supports tasks previously managed by special education teachers (e.g., data analysis, program planning), their role shifts from expert to collaborator. If not managed with adequate support, this potential loss of professional identity could lead to decreased agency, burnout, and attrition.³⁵

4.2. Students' Experiences and Preferences with AI Tools

Modern students, having grown up with interactive games and digital experiences, expect similar engaging and dynamic interactions from their educational tools, a need that AI is well-positioned to meet.²¹ AI-driven tools are designed to adapt to individual user preferences and continuously learn from interactions, thereby offering more personalized and inclusive learning experiences that resonate with students.¹⁹ Students with disabilities particularly benefit from AI-powered tools such as text-to-speech programs, predictive text, and conversational agents, which significantly enhance their communication abilities and overall learning engagement.¹⁹

By providing tools that help them overcome traditional barriers to learning, AI fosters greater independence and confidence in students, enabling them to participate more fully in classroom activities, express their thoughts more easily, and demonstrate their knowledge in ways that work best for them.³ A qualitative study, drawing directly from the perspectives of students with disabilities, identified key preferences for AI integration: responsive options, relevant content, engaging learning environments and virtual characters, compelling visuals, and effective sound or auditory supports.⁴⁴ Broadly, over 90% of disabled adults perceive AI as helpful for people with disabilities and actively use it in their daily lives for communication, assistance, creativity, and productivity.³⁸ However, students may exhibit hesitation in using generative AI tools, often due to unclear or overly strict

institutional policies that might inadvertently discourage or prohibit their beneficial assistive applications.¹⁹

4.3. Parents' Views and Concerns

A significant majority of parents and educators of students with learning disabilities share a positive outlook, believing that AI will make learning more accessible, inclusive, and personalized for their children.³² Despite this optimism, parents express notable concerns about AI's potential to decrease crucial human interaction within the educational setting and the risk of AI leaving some schools and students behind due to inequitable access.³² Parents' lack of technological skills and, in some cases, resistance to digital tools can limit the effectiveness of AI innovations, particularly in remote learning contexts, highlighting a need for family engagement and training.¹⁵

AI can play a vital role in building stronger connections between families and schools by tracking student progress and communicating insights to caregivers in real-time. This consistent feedback loop fosters a collaborative team approach to education.³ AI applications like ChatGPT can significantly assist caregivers with various writing and organizational tasks, such as drafting letters of intent, creating personalized care plans, and tracking income and expenses for their children with disabilities, thereby lessening the caregiving burden.⁴⁵ Concerns regarding privacy and the potential misuse of sensitive student information are also prominent among parents, particularly when clear policies regarding data management are lacking.¹⁵

The varied and sometimes conflicting perspectives of teachers, students (especially their specific preferences for AI features), and parents (concerns about policy clarity and technological literacy) underscore the critical necessity of involving all stakeholders in the design, development, and implementation of AI tools and policies. This indicates that a top-down approach to AI integration, without genuine input from the end-users (students, parents, and frontline teachers), is likely to encounter resistance, fail to meet actual needs, or even exacerbate existing issues. Therefore, a participatory design approach, where these stakeholders are active partners in shaping AI solutions and policies, becomes crucial for ensuring relevance, acceptance, and ethical integration. This leads to what can be described as a paradox: while AI offers significant administrative relief for teachers, enabling them to focus more on students, both teachers and parents express profound concern about the potential reduction of crucial human interaction. AI is intended to free up human time for more meaningful engagement, yet stakeholders simultaneously fear its erosion of direct human connection and empathy.³ This suggests that successful implementation must be meticulously designed to preserve and enhance, rather than inadvertently diminish, the human-centric and empathetic aspects that are foundational to special education.

Table 3: Summary of Stakeholder Perspectives on AI in Special Education

Stakeholder Group	Key Perceived Benefits of AI	Key Concerns/Challenges with AI
Special Education Teachers	Workload reduction, enhanced curriculum adaptation, personalized student support, improved data insights for instruction.	Decreased teacher agency/burnout, impact on assessment integrity, need for extensive professional development, skepticism about full benefits.
Students with Disabilities	Personalized learning, enhanced communication, increased independence/confidence, engaging learning environments.	Unclear/strict institutional policies, potential for distraction, need for specific feature design (visuals, sound, etc.).
Parents/Guardians	Increased accessibility, personalized learning, administrative aid for caregivers, improved home-school connection.	Potential decrease in human interaction, equitable access disparities (digital divide), lack of technological skills, data privacy/misuse.

5. Future Directions and Research Gaps

The evolving landscape of AI in special education presents both promising avenues for innovation and critical areas that require focused attention to ensure its ethical and effective integration.

5.1. Areas for Further Research and Development

There is a critical need for high-quality, rigorous research that empirically validates AI's effectiveness in special education. This must extend beyond preliminary or short-term studies to encompass longitudinal data collection, investigating the long-term impact of AI interventions on students' cognitive development, social-emotional growth, and independence over several academic years.² This highlights a significant gap between the promise and the proven, sustained impact of AI in special education. Much of the current evidence might be preliminary or based on controlled settings, necessitating more rigorous, real-world studies to justify widespread adoption and investment. This "validation gap" is a critical research priority to move AI from a promising innovation to a proven, scalable intervention in special education, ensuring that resources are allocated based on demonstrated efficacy.

Further research and development are needed for AI systems capable of reading and responding to facial expressions, which could provide enhanced support for students facing emotional or social communication challenges.¹⁰ Continued development and refinement of generative AI algorithms are required. This must be accompanied by a strong emphasis on the necessity for skilled professionals to thoroughly review and discern the accuracy and appropriateness of AI-generated content, especially for critical educational documents like IEPs.¹

Future technological advancements must prioritize the development of more comprehensive AI systems that can address the diverse and often combined nature of disabilities, rather than focusing on solutions for only single types of impairments.⁹ Addressing the uneven geographic distribution of current AI research in special education is crucial. More studies are needed in underrepresented regions (e.g., Arab countries, Africa, and North America beyond specific institutions) to ensure global relevance and applicability of findings.¹⁸ Further exploration of AI's potential in IEP development is warranted, including the creation of tools that can generate IEPs in plain language for families to enhance comprehension, and the development of closed AI systems capable of analyzing IEP progress reports to identify the most effective instructional strategies.²⁹

5.2. Policy and Implementation Recommendations for Ethical and Effective AI Integration

AI integration in special education must be approached thoughtfully, guided by robust empirical research, and consistently accompanied by skilled professional oversight to ensure it truly benefits students with disabilities.¹ Prioritizing and establishing clear ethical guidelines is paramount, addressing critical concerns such as accuracy, accountability, transparency in AI decision-making processes, and obtaining informed consent from all stakeholders.¹

Implementing stringent policies on data privacy and security, including the anonymization of sensitive student data, is essential to protect student confidentiality and build trust within the educational system.¹ Proactive strategies to mitigate algorithmic bias are necessary, involving the use of diverse training data, ongoing bias testing, and comprehensive educator training on bias awareness and effective AI prompt generation techniques.¹

Significant investment in technological infrastructure and comprehensive teacher training programs is crucial to ensure equitable access to AI tools and their effective utilization across all educational settings, particularly in under-resourced areas.⁹ Schools and districts must actively support teachers in navigating their evolving professional roles to prevent decreased agency or burnout, ensuring AI is perceived as an augmentation rather than a replacement.³⁵ Developing clear, nuanced institutional policies on AI use that explicitly permit and encourage

assistive applications for students with disabilities, without associating them with academic dishonesty, is vital to foster responsible adoption.¹⁹ Engaging families through targeted training and support programs is essential to ensure their equitable participation in their child's AI-enhanced learning journey.¹⁵

The diverse and complex challenges associated with AI integration (e.g., bias, privacy, equity, training) necessitate not just technological solutions but also the development of comprehensive, proactive policy frameworks. These policies must be inclusive, adaptive to AI's rapid evolution, and specifically designed to govern AI use in education, rather than attempting to fit AI into existing, often outdated, regulatory structures. The need for "clear policies on consent and privacy" ¹⁵, "inclusive policies and locally adapted solutions" ¹⁵, and a "responsible AI policy that balances ethical considerations, data privacy, and educational goals" ²⁵ all point to the necessity of building a comprehensive "socio-technical ecosystem" where all components—technological, human, and policy-driven—are aligned, mutually supportive, and continuously adapted to ensure that AI truly serves the overarching goal of inclusive and effective special education. This positions AI as a catalyst for significant policy innovation in education, requiring policymakers to anticipate and adapt to technological advancements proactively.

6. Conclusion

In conclusion, Artificial Intelligence holds immense, transformative potential to revolutionize special education classrooms. Its applications offer unprecedented opportunities to provide highly personalized learning experiences, significantly enhance accessibility and communication for students with diverse needs, streamline administrative burdens for educators, and ultimately boost student engagement and academic outcomes. However, realizing this profound potential is contingent upon a concerted and strategic effort to address the significant challenges inherent in AI integration. These include ensuring the utmost data privacy and security for sensitive student information, proactively mitigating algorithmic bias to prevent the perpetuation of inequities, investing in comprehensive teacher training and professional development to foster readiness, carefully managing the risk of over-reliance on technology to preserve invaluable human interaction, and overcoming persistent infrastructure and funding disparities to ensure equitable access for all learners.

The insights from various stakeholders—teachers, students, and parents—underscore the imperative of maintaining a human-centric approach, where AI serves as a powerful augmentation rather than a replacement for the irreplaceable role of educators and the necessity of empathetic human connection. The dynamic between automation's benefits and the call for co-creation highlights that successful AI integration is a collaborative endeavor requiring continuous dialogue and

adaptation. The consistent presentation of AI as having both profound benefits and significant risks frames it as a "dual-edged sword," where its positive impact is contingent upon proactive management and mitigation of its negative potentials. This reinforces the idea that AI is not inherently good or bad, but its impact depends entirely on the design, implementation, and governance frameworks put in place. Therefore, the path forward for AI in special education demands sustained, high-quality research to validate its long-term effectiveness, collaborative policy development that is proactive and inclusive, and equitable investment in technology and human capital. The complexity of AI integration, involving the interplay of technology, pedagogy, ethics, policy, and diverse stakeholders, suggests that successful and sustainable implementation requires a holistic, ecosystem-level approach rather than isolated interventions. By carefully navigating these complexities, AI can truly serve as a catalyst for a more inclusive, effective, and empathetic special education system, ensuring that every student with disabilities has the opportunity to thrive.

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AI in English Language Teaching and Learning

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Abstract

Artificial intelligence (AI) has made significant strides in a number of fields recently, and it is starting to have a big impact on education, especially English language teaching (ELT). AI technologies provide creative answers that improve language learning procedures, adjust to the needs of each individual, and give tailored feedback. The ability of AI to deliver individualized learning experiences is one of the main advantages of ELT. AI-powered adaptive learning systems assess students' learning preferences, areas of strength, and weaknesses to customize lessons. In addition to encouraging increased engagement, this individualized approach makes language acquisition more effective. This study examines the various ways that AI is influencing English Language Teaching (ELT), looking at the advantages, disadvantages, and implications for both teachers and students.

Artificial Intelligence, from its birth, facilitates educational applications to form an unbreakable bond, bringing new technology and new tools for the development of education, which has gradually attracted greater attention from the education and academic circles at home and abroad. The application of Artificial Intelligence in English teaching can play a good role in assisting teaching. In order to study the current status of domestic and international research on artificial intelligence in the field of English teaching and to grasp the research trend, this study uses Cite Space visual analysis software to analysis the institutions, the countries or regions engaged in the research, the change in the number of articles issued, and the keywords. The results of the study show that the application of artificial intelligence in English language teaching has received more and more attention in recent years, with the United States, China and the United Kingdom leading the majority of research in this area, and the direction of the research is mostly based on online teaching, artificial intelligence technology, learning analytics, and the English language. In future research, communication and exchange between countries and institutions should be strengthened to jointly promote the application of AI in English language teaching.

Keywords: *Artificial Intelligence, English, Language, Teaching.*

Introduction

Artificial Intelligence (AI) has emerged as a transformative force across various sectors, reshaping industries and redefining the way tasks are performed. In the realm of education, particularly in English Language Teaching (ELT), AI

technologies are revolutionizing traditional pedagogical approaches and offering innovative solutions to enhance language learning experiences. This introduction sets the stage for exploring the profound impact of AI in ELT, highlighting its potential to personalize instruction, facilitate immersive learning environments, and address the diverse needs of learners.

At present, the mother tongue enters the English class as a surreptitious intruder; teachers may “concurrently translate” and “explain” texts before dictating answers. It can be given its due place by being used for discussion and understanding along with an engagement with English. One illustration of this is in Prabhu (1987); the limits on the use of the mother tongue in the Bangalore Project were naturally set by the requirements of the task, which was input in English, and required responses in English; the mother tongue made the language comprehensible where necessary. Given a variety of inputs in English, and a genuine attempt to understand them, the mother tongue need not be an interloper but a resource. Krashen (1985: 94) points out that “(while) concurrent translation is not effective”, the use of two languages in the classroom can be “done in such a way as to provide comprehensible input in the target language, using the first language to provide background information”.

Beyond personalized learning, AI enables the creation of immersive language learning environments that simulate authentic linguistic contexts and cultural experiences. Virtual reality (VR) technologies, coupled with AI algorithms, immerse learners in virtual scenarios where they can practice speaking, listening, and interacting in English with simulated native speakers. These immersive experiences not only enhance language comprehension and fluency but also foster cultural awareness and cross-cultural communication skills.

Technological advancements in artificial intelligence (AI) have drawn more attention because AI is a form of computational creativity (Cheng and Day, 2014). Many artificial intelligence technologies have been used to help computers become more creative. Rahman, 2009, p. Artificial intelligence (AI) is defined as the creation of software that performs autonomous tasks like computation and student search (p. 343). Computer systems (online platforms) and computerized machines (robots) are examples of "intelligent" devices that are created using artificial intelligence (AI) that function and respond similarly to the human brain (Karsenti, 2019). Maherotra (2019) notes that machine intelligence (MI) is another name for artificial intelligence. The natural intelligence exhibited by humans is the basis for the machine's prediction of intelligence. Put differently, artificial intelligence (AI) involves imbuing a machine with human intelligence to perform tasks. AI, according to Mehrotra (2019), is a computer science technology that investigates the creation and analysis of intelligent devices and applications. The science behind making a machine think and act like an intelligent human is called artificial intelligence. As Wang (2019) notes,

intelligence is the key to AI technology. Whitby (2009) asserts that artificial intelligence (AI) investigates intelligent behaviors in people, animals, and machines in an effort to discover solutions. The terms artificial intelligence and intelligence are combined to form the word AI (Ahmet, 2018). When something is said to be "artificial," it means that it is not entirely fraudulent, but rather mimicked or unreal. Conversely, since genuine goods have superior qualities in some situations, "intelligence" can take its place. It is difficult to define intelligence. It encompasses a variety of manifestations, including creativity, self-awareness, emotional awareness, reasoning, and awareness. As mentioned on page by Joshi (2019). 4. Developing a machine with human-like capabilities rather than creating an extraordinarily intelligent computer that can solve every issue is what artificial intelligence may entail. Building hardware or software systems with human-like thought processes or characteristics that are typically associated with human intelligence is the goal of artificial intelligence (Campesato, 2020). According to computer system theory, artificial intelligence (AI) is capable of carrying out tasks that typically require human intelligence. Artificial intelligence can understand some aspects of human intelligence, such as speech recognition, language awareness, decision-making, and visual perception. Expert systems and solutions to challenging issues like recognition and natural language processing are in need of artificial intelligence (Devi et al. by 2020). AI serving as a language tutor. AI provides continuous, personalized instruction in a low-stakes environment where students are more willing to take risks and make mistakes. It also gives students the abundance of feedback and scaffolding activities they need to become fluent. AI's main benefit.

Furthermore, AI-driven language learning applications offer unparalleled accessibility and scalability, breaking down barriers to access and reaching learners across geographical boundaries and socio-economic backgrounds. With AI-powered platforms available anytime, anywhere, students have the flexibility to engage with English language materials at their own pace, facilitating continuous learning beyond the confines of the classroom.

Significance and Justifications for Employing Ai In English Language Teaching

The significance and justifications for employing Artificial Intelligence (AI) in English Language Teaching (ELT) are rooted in its potential to revolutionize traditional pedagogical approaches and enhance language learning outcomes. Firstly, AI enables personalized learning experiences tailored to individual learners' needs, preferences, and proficiency levels. By analyzing vast amounts of data, AI-driven adaptive learning platforms can deliver targeted instruction, provide immediate feedback, and identify areas for improvement, thereby optimizing the learning process.

Moreover, the integration of AI in ELT addresses the challenges of scale and accessibility, particularly in diverse and resource-constrained educational settings. AI-powered language learning applications extend access to quality education by providing anytime, anywhere learning opportunities, thus promoting equity and inclusivity in language education.

Additionally, AI facilitates innovative pedagogical approaches that foster active engagement, collaboration, and creativity among learners. From interactive chatbots for conversational practice to immersive virtual reality simulations for cultural immersion, AI technologies offer diverse and dynamic learning experiences that motivate and empower students to develop their English language skills.

Furthermore, the employment of AI in ELT aligns with the evolving demands of the digital age, preparing students for success in a globalized and technologically driven society. As AI continues to advance, its integration in language teaching not only enhances language proficiency but also cultivates critical thinking, problem-solving, and digital literacy skills essential for lifelong learning and professional success. Overall, the significance of employing AI in English Language Teaching lies in its capacity to transform language education, empower learners, and foster a more inclusive and interconnected world.

Relationship between Artificial Intelligence and English Language Teaching

The relationship between Artificial Intelligence (AI) and English Language Teaching (ELT) is dynamic and multifaceted, characterized by the integration of AI technologies into language learning and teaching processes. This relationship manifests in several ways, each contributing to the transformation of traditional ELT approaches and enhancing the overall language learning experience. Below are some key aspects that illustrate the relationship between AI and ELT:

- **Personalized Learning:** AI technologies enable personalized learning experiences by adapting instruction to individual learners' needs, preferences, and proficiency levels. Through intelligent tutoring systems and adaptive learning platforms, AI analyzes learners' interactions and performance data to deliver tailored instruction, ensuring that each student receives targeted support and feedback.
- **Immediate Feedback and Assessment:** AI-powered tools provide immediate feedback and assessment, offering students timely guidance on grammar, vocabulary, pronunciation, and other language skills. Automated grading systems, interactive chatbots, and language assessment software enable learners to identify and correct errors in real-time, accelerating the language learning process and enhancing self-directed learning.
- **Enhanced Language Practice:** AI facilitates language practice through interactive simulations, language games, and virtual reality (VR)

environments. Virtual language assistants and chatbots engage students in conversational practice, while VR technologies immerse learners in authentic language contexts, enabling them to practice speaking, listening, and cultural interaction in English.

- **Access and Equity:** AI-powered language learning applications extend access to quality education by breaking down geographical and socio-economic barriers. With AI-driven platforms available anytime, anywhere, learners have the flexibility to engage with English language materials at their own pace, regardless of their location or background, thus promoting equity and inclusivity in ELT.
- **Teacher Support and Professional Development:** AI technologies support English language teachers by providing tools for lesson planning, instructional design, and student assessment. AI-driven analytics offer insights into students' learning progress and performance, enabling teachers to adapt their teaching strategies and provide targeted interventions. Moreover, AI can facilitate professional development for teachers through personalized training modules and resources tailored to their specific needs and interests.
- **Innovative Pedagogical Approaches:** The integration of AI in ELT encourages the exploration of innovative pedagogical approaches that foster active learning, collaboration, and creativity. AI-driven collaborative learning environments, project-based activities, and peer tutoring systems promote student engagement and autonomy, transforming traditional classroom dynamics and enriching the learning experience.
- **Research and Development:** The relationship between AI and ELT also encompasses research and development efforts aimed at advancing AI technologies and their applications in language education. Researchers and developers collaborate to explore new AI-driven solutions, evaluate their effectiveness, and address challenges related to bias, ethics, and scalability in AI-powered language teaching.

Overall, the relationship between Artificial Intelligence and English Language Teaching is symbiotic, with AI technologies reshaping language learning and teaching practices and ELT informing the development and refinement of AI-driven solutions. As this relationship continues to evolve, it holds immense potential to enhance language education, empower learners, and bridge linguistic and cultural divides in an increasingly interconnected world

Conclusion

In conclusion, the impact of Artificial Intelligence in English Language Teaching is profound and multifaceted, offering numerous benefits alongside challenges and considerations. AI technologies have the potential to revolutionize

language learning by providing personalized instruction, facilitating immersive experiences, and extending access to quality education. However, addressing issues such as bias, ethics, and teacher readiness is essential to harnessing the full potential of AI in ELT. By embracing AI responsibly and collaboratively, educators can enrich language learning experiences and empower learners to achieve proficiency in English language skills.

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Empowering Language Skills: NLP as a Tool for Effective Communication Practice

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Abstract

Natural Language Processing (NLP) is revolutionizing communication practices in education and beyond, providing innovative tools to enhance language learning and productivity skills (Allen, 2022). By enabling real-time feedback, simulating real-world conversations, and analyzing linguistic data, NLP bridges the gap between theoretical knowledge and practical application (Chomsky et al., 2024). This paper explores the transformative role of NLP in communication practice, emphasizing its pedagogical integration, applications in productivity skill development, and use in English Language Teaching (ELT) classrooms (Kumar, 2022). Comparative analyses of leading NLP tools reveal their capabilities in addressing industry demands while identifying gaps in current academic curricula (Doe & Smith, 2023). The challenges faced by educators and students in adopting NLP technologies and the requisite training frameworks are discussed (Brown, 2023). This study concludes with recommendations for maximizing the potential of NLP in education to meet the evolving requirements of professional environments (Robinson, 2024).

Keywords

Natural Language Processing, Communication Practice, Productivity Skills, AI Tools, Language Learning

Introduction

In the age of digital transformation, the intersection of artificial intelligence and language education has emerged as a pivotal area of academic and professional interest. At the forefront of this evolution is Natural Language Processing (NLP), a subfield of AI that enables machines to understand, interpret, and respond to human language in a meaningful way (Alavi et al., 2021). From enhancing writing and speaking skills to simulating complex communication scenarios, NLP tools offer unprecedented opportunities for learners, teachers, and professionals alike.

Communication, particularly in educational contexts, is no longer confined to textbooks and static classroom lectures. With NLP's ability to provide real-time

feedback, analyze linguistic nuances, and support adaptive learning, traditional modes of language instruction are being redefined (Chen, 2021). This is especially relevant in ELT classrooms, where learners require personalized and context-rich opportunities to develop proficiency.

This paper critically explores the integration of NLP into communication practices within education, analyzing its role in promoting productivity skills, assessing its alignment with industry needs, and identifying strategies to support its adoption.

Objectives

This study is structured around the following objectives:

1. To critically analyze the role of NLP in enhancing communication practices.
2. To identify NLP applications that contribute to the development of productivity skills.
3. To investigate how NLP tools can be integrated effectively into ELT classrooms.
4. To examine the disconnect between industry expectations and academic curricula.
5. To propose training strategies for educators and students for optimal NLP tool usage.

Methodology

This research employs a qualitative comparative methodology, drawing upon a comprehensive review of secondary data from 2022–2024. Peer-reviewed journals, educational technology reports, and case studies were analyzed to assess the functionalities, benefits, and limitations of popular NLP tools. The study evaluates applications such as Grammarly, ProWritingAid, ChatGPT, Google Bard, and ELSA Speak in real-world and classroom scenarios to derive conclusions on their pedagogical value and practical efficacy (Brownlee, 2022; Subramanian, 2023).

Applications of NLP in Communication Practice

Grammar and Writing Enhancement

Grammar correction and writing enhancement platforms like Grammarly and ProWritingAid go beyond mere proofreading. They assess tone, sentence clarity, passive voice usage, and style consistency—elements critical to effective communication in academic and workplace settings (Brownlee, 2022). These platforms help students understand writing conventions through active correction and explanation, thereby supporting the acquisition of both foundational and advanced writing skills.

Conversational Simulations and Speaking Practice

Conversational AI tools such as ChatGPT and Google Bard simulate interactive dialogue, enabling learners to practice speaking and listening in dynamic environments. These tools imitate real-life communicative contexts, offering immediate feedback and engagement (Subramanian, 2023). ChatGPT, for instance, can be used to rehearse job interviews, customer service conversations, or academic discussions, allowing students to build fluency, confidence, and spontaneity.

For non-native speakers, tools like ELSA Speak are invaluable in targeting pronunciation challenges. These applications use phonetic analysis to identify mispronunciations and provide corrective **Pronunciation and Speech Feedback** guidance, helping learners neutralize accents and achieve clearer articulation (Kumar, 2023). By combining auditory and visual feedback, such platforms cater to various learning styles.

Pedagogical Integration of NLP Tools

Adaptive and Personalized Learning

NLP allows for the development of learner-centric models where instruction is tailored to individual proficiency levels, learning speeds, and linguistic backgrounds. Platforms that use machine learning can adapt exercises and tasks based on a learner's progress, fostering continuous improvement (Alavi et al., 2021)

Collaborative and Gamified Learning

NLP tools support gamification, encouraging students to participate in language-learning games, role-plays, and peer-reviewed assignments. This not only improves engagement but also introduces elements of fun and competition into the classroom, which have been shown to increase retention and application of knowledge (Chen, 2021).

The integration of NLP can also enhance assessment practices. Automated feedback systems enable educators to track students' progress through dashboards and linguistic analytics, making the evaluation process more objective and comprehensive (Brownlee, 2022).

Teaching Productivity Skills through NLP in ELT

NLP-integrated planners and AI-driven task managers assist learners in organizing assignments, setting reminders, and managing deadlines. Simulated activities using chatbots can create time-bound scenarios, teaching students how to prioritize and execute tasks efficiently (Chen, 2021).

NLP supports virtual collaboration by enabling real-time communication and document sharing among learners. Chat-based projects foster teamwork, promoting collective problem-solving and shared responsibility (Subramanian, 2023).

By analyzing message tone and structure, NLP tools guide users in crafting clear and audience-appropriate communications. This is especially relevant in professional email writing and report generation, where precision and etiquette are crucial (Brownlee, 2022).

Critical Thinking

Many NLP platforms offer content generation tools that encourage students to evaluate, critique, and refine responses. This stimulates deeper thinking, evaluation of source credibility, and construction of persuasive arguments (Chen, 2021).

Adaptability

Through exposure to varied conversational formats and linguistic registers, learners gain the flexibility to navigate multiple contexts—academic, corporate, intercultural, and informal—making them more versatile communicators (Subramanian, 2023).

Addressing the Curriculum-Industry Gap

One of the primary motivations for integrating NLP into education is to address the widening gap between academic instruction and industry expectations. While educational institutions often focus on theoretical proficiency, employers value practical communication and interpersonal skills (Brownlee, 2022). NLP tools act as mediators by providing applied learning experiences that simulate real-world tasks.

However, the success of such interventions depends on how effectively institutions integrate these tools into formal curricula. Current practices often lack structured approaches for consistent and strategic deployment of NLP resources (Chen, 2021).

Challenges in Adopting NLP Tools

Accessibility and Infrastructure

Not all students or teachers have access to devices with compatible operating systems or stable internet connectivity. This digital divide exacerbates educational inequalities and limits the reach of AI-enhanced learning (Kumar, 2023).

Training and Technical Proficiency

Many educators lack the technical knowledge to utilize NLP tools effectively. Without proper training, tools may be underused or misused, defeating their purpose. Similarly, students unfamiliar with these technologies may experience a learning curve that impedes their progress (Brownlee, 2022).

Cultural and Linguistic Inclusivity

NLP tools are often designed for dominant languages and cultural contexts. Their lack of customization for regional dialects, multilingual users, or indigenous expressions limits inclusivity. This raises concerns about equity and representation in language learning environments (Chen, 2021).

Training Requirements for Educators and Learners

Educator Training

Workshops, certification programs, and collaborative peer-learning modules can build teacher confidence in using NLP tools. Emphasis should be placed on pedagogical strategies, ethical considerations, and integrating tools into lesson plans (Alavi et al., 2021).

Student Orientation and Support

Introductory sessions, user guides, and help desks can familiarize students with NLP functionalities. Ongoing technical support ensures that learners remain engaged and are able to independently explore these tools as part of their language development journey (Subramanian, 2023).

Discussion

The evidence presented in this study underscores the transformative role of NLP in modern education. By shifting away from rote memorization and toward experiential, adaptive learning, NLP tools offer scalable solutions for teaching language and productivity skills simultaneously. Their real-time feedback systems, simulation capabilities, and linguistic intelligence align closely with the dynamic requirements of today's professional environments.

However, to achieve systemic impact, educators must be empowered, curricula must be reformed, and infrastructural barriers must be overcome. Future research could focus on longitudinal studies to measure the sustained impact of NLP integration on student outcomes.

Suggestions

To fully realize the transformative potential of Natural Language Processing (NLP) in communication education and productivity skills development, institutions must prioritize structured integration of NLP tools into language curricula. This integration should not be viewed as an add-on but as a core component of modern English Language Teaching (ELT). Curriculum designers must embed NLP-assisted modules that cater to listening, speaking, reading, and writing (LSRW) skills, allowing students to engage with authentic, task-based learning activities that simulate real-life communication demands. For instance, platforms like Grammarly and ProWritingAid can be integrated into academic writing courses to help students not only correct errors but also understand underlying grammar concepts and stylistic nuances (Brownlee, 2022). Similarly, conversational agents like ChatGPT

and Google Bard can be employed in speaking classes to simulate role-plays and interpersonal dialogues, thereby improving fluency and contextual appropriateness (Subramanian, 2023). Curriculum frameworks should include practical assignments involving these tools, thus reducing the gap between theoretical instruction and applied communication proficiency.

Secondly, extensive professional development and capacity-building programs should be conducted to prepare educators for the effective implementation of NLP tools. Teachers play a critical role in guiding students' digital literacy and must be equipped with the technical skills and pedagogical strategies to integrate NLP into their teaching practice. Without structured training, there is a risk of inconsistent or ineffective usage of such tools, leading to student disengagement or superficial learning outcomes (Alavi et al., 2021). Institutions should consider offering hands-on workshops, digital certification programs, and mentorship opportunities for educators to experiment with and master AI-assisted learning platforms. These initiatives should emphasize not only tool functionalities but also instructional design, ethical considerations, and data privacy practices. In parallel, student orientation programs should be introduced at the beginning of academic terms to ensure learners are familiar with NLP interfaces, know how to interpret feedback, and are encouraged to use these tools critically rather than passively.

Moreover, the adoption of NLP technologies must be accompanied by an inclusive infrastructure strategy that ensures equitable access for all learners. A major barrier to the effective implementation of digital tools in education is the digital divide—students from rural, under-resourced, or economically disadvantaged backgrounds often lack access to stable internet connections, updated devices, or technical support (Kumar, 2023). To address this, educational institutions and governments must collaborate to invest in digital infrastructure and make NLP tools available through institutional licenses or open-access platforms. Offline-compatible versions of key applications and mobile-friendly interfaces could also be developed to accommodate users with limited connectivity. Additionally, tool developers must strive to improve the multilingual and multicultural adaptability of NLP systems to make them more relevant to diverse learner populations. This includes training AI models on regional dialects, expanding language coverage, and ensuring culturally appropriate feedback and examples within learning environments (Chen, 2021).

Finally, a continuous feedback loop between academia and industry must be established to align communication training with real-world demands. As job markets evolve, the ability to communicate clearly, collaboratively, and critically across digital platforms is becoming essential for professional success. NLP tools are uniquely positioned to train learners in these areas through features that develop

tone sensitivity, audience analysis, and real-time adaptability. However, without input from industry stakeholders, academic programs may fail to identify emerging communication trends or workplace challenges (Brownlee, 2022). Establishing partnerships with corporate training departments, HR managers, and industry experts can help academic institutions update curricula in alignment with productivity expectations. Moreover, research initiatives should be encouraged to evaluate the long-term impact of NLP integration on learner performance, employability, and cross-cultural communication competence. By institutionalizing this collaboration, education systems can not only enhance communication outcomes but also prepare students to thrive in a rapidly changing, AI-augmented professional landscape.

Conclusion

Natural Language Processing represents a paradigm shift in communication practice and education. Its ability to personalize, simulate, and adapt linguistic instruction makes it an essential component of contemporary pedagogy. To bridge the gap between institutional teaching and industry readiness, NLP must be systematically incorporated into curricula, accompanied by robust training frameworks. With strategic implementation, NLP has the power to democratize education, promote linguistic equity, and equip learners with the communication and productivity skills essential for the 21st century.

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The Role of Artificial Intelligence (AI) in the Teaching and Learning of Gujarati Language in Higher Education

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Abstract

The rapid growth of Artificial Intelligence (AI) in higher education has changed teaching methods, assessment models, and student learning approaches. However, its effects on regional language education in India have not been fully explored. Specifically, using AI in teaching Gujarati raises important issues about language authenticity, cultural context, academic honesty, and the changing role of teachers. This study addresses the gap by examining how AI is viewed and used in Gujarati higher education. Primary data were collected through a structured 100-item questionnaire sent to undergraduate, postgraduate, and doctoral students, as well as teachers at the undergraduate and postgraduate levels. The questionnaire consisted mainly of Likert-scale items along with some open-ended questions to evaluate AI literacy, support for writing and grammar, translation practices, literary interpretation, speech technologies, exam preparation, creativity, and ethical awareness.

Using a mixed-method design with a focus on quantitative data, the study combines descriptive and comparative statistical analysis with thematic reviews of qualitative responses. Instead of labeling AI as merely positive or negative, the research assesses whether it serves as a tool for enhancing learning, fosters dependency, or disrupts traditional language education. It emphasizes the need to balance technological benefits with the preservation of cultural and linguistic integrity in non-English academic settings. By highlighting evidence from Gujarati higher education, the study adds to global conversations on AI in education. It shifts the focus away from English-dominant viewpoints and provides a framework for responsible AI use in teaching regional languages.

Keywords: Artificial Intelligence in Higher Education, Gujarati Language Pedagogy, AI-Assisted Regional Language Education, Digital Ethics and Academic Integrity.

Introduction

Artificial Intelligence (AI) has quickly changed higher education around the world, affecting teaching design, assessment methods, and academic work. Research shows that AI applications in universities increasingly influence learning analytics, automated grading, and personalized instructional systems (Zawacki-Richter et al., 2019). With the rise of generative AI, this change has extended beyond automation to content creation and interactive support for knowledge (Kasneci et al., 2023). Tools like ChatGPT and Google Gemini help with drafting, summarizing, translating, and researching, thus altering academic practices.

Language education has seen significant impacts from these advancements. Early work in Computer-Assisted Language Learning (CALL) focused on learner independence, interaction, and feedback for improvement (Chapelle, 2001). Modern AI tools further these functions through automated writing support, speech

recognition, and translation systems. While such technologies make learning more accessible and efficient, they also raise concerns about authorship, originality, and academic integrity (Kasneci et al., 2023).

Despite a wealth of global research, studies on AI mainly concentrate on English and Western educational systems (Zawacki-Richter et al., 2019). In India, discussions about AI integration often focus on policy and technological modernization, particularly under the National Education Policy 2020 (Government of India, 2020). However, there is still a lack of systematic studies on AI's effects on teaching regional languages.

Gujarati, with its rich literary tradition and strong institutional presence in higher education, plays an important role in Gujarat's academic landscape. Nevertheless, the effects of AI on Gujarati departments have not been thoroughly documented. Issues of language authenticity, cultural context, and ethical awareness have not been systematically explored.

The main problem lies in the lack of empirical data explaining how AI is changing vernacular language teaching in higher education. While many see AI as transformative, its specific role in Gujarati studies—whether as a teaching aid, a shortcut for learning, or a disruptive influence—remains uncertain.

2. Literature Review

2.1 AI in Language Education: Global Perspectives

The incorporation of AI in language education builds on earlier developments in Computer-Assisted Language Learning (CALL). Chapelle (2001) defined technology-assisted language learning as an interactive process driven by feedback that enhances learner independence. As Natural Language Processing evolved, AI systems began to support automated essay grading, speech recognition, and personalized tutoring.

A review by Zawacki-Richter et al. (2019) shows that AI research in higher education primarily focuses on analytics and administrative tasks, with less emphasis on teaching theory and ethical considerations. The recent rise of generative AI marks a significant shift in educational technology. Large language models can generate extended text, simulate tutoring conversations, and aid in interpretive work (Kasneci et al., 2023). Although these systems provide valuable teaching opportunities, experts warn that over-reliance on them can hinder critical thinking and independent learning (Kasneci et al., 2023).

Research indicates measurable benefits of AI for vocabulary acquisition and grammatical accuracy, yet challenges remain in understanding contextual meanings, idiomatic expressions, and cultural nuances—key elements in vernacular and literary language education.

2.2 AI in Indian Education and Regional Language Contexts

In India, discussions of AI in education have mostly been centered around national policies promoting digital change and innovation. The National Education Policy 2020 underscores the importance of integrating technology and creating digital learning environments (Government of India, 2020). However, detailed teaching frameworks addressing AI use in humanities and regional languages are still lacking.

While Indian language technologies have progressed in areas like machine translation and speech processing, thorough research at the classroom level regarding the adoption of generative AI in regional language departments is scarce. In the case of Gujarati, most studies have focused on language maintenance and translation technologies rather than pedagogical changes brought by AI.

2.3 Theoretical Frameworks

This study uses constructivist and sociocultural perspectives. Constructivist learning theory views knowledge as built through engagement and reflection. AI tools may act as supports that help learners during complex tasks, but they should stimulate active cognitive involvement instead of fostering passive reliance.

Sociocultural theory, as described by Vygotsky (1978), focuses on mediated learning within the Zone of Proximal Development. In this light, AI can be seen as a tool that enhances learners' capabilities, as long as it complements, rather than replaces, human interaction.

Ethical considerations intersect with these theories. UNESCO (2023) highlights the importance of responsible AI use, especially in multilingual and culturally diverse educational settings. These issues are particularly significant in vernacular contexts, where language reflects cultural identity.

2.4 Research Gap and Rationale

While global research extensively studies AI in English-speaking higher education settings, and Indian research focuses on policy and infrastructure, the teaching implications of generative AI for regional language education are still underexplored. Although Gujarati language studies are significant, there has been no structured research on AI adoption, perception, and ethical considerations.

By analyzing survey data from teachers and students, this study addresses this gap and contributes to a better understanding of AI integration in vernacular higher education.

3. Methodology

3.1 Research Design

This study used a mixed-method survey design with an emphasis on quantitative data. This approach helped capture measurable trends in AI use and detailed perspectives on its teaching implications in Gujarati higher education. The quantitative aspect offered descriptive and comparative statistics, while the qualitative part, based on open-ended responses, provided a thematic analysis of cultural, ethical, and linguistic issues. This design ensured methodological rigor while accommodating the complexities of vernacular language teaching in relation to emerging technologies.

3.2 Participants

The study included 130 participants, made up of 100 students and 30 teachers from Gujarati language departments in both undergraduate and postgraduate institutions.

Students: The student group included individuals at the undergraduate (UG), postgraduate (PG), and doctoral (PhD) levels.

Teachers: Faculty members teaching at the UG and PG levels were included to provide insights from their teaching experiences.

Gender distribution: The sample aimed for a balance between male and female participants, ensuring representation across academic levels and teaching roles.

This stratified sampling approach allowed for analysis across academic tiers and ensured both learner and teacher viewpoints were documented systematically.

3.3 Instrument

Data were gathered through a structured 100-item questionnaire designed to assess various aspects of AI integration in Gujarati language education, including: AI literacy and awareness, - Writing and grammar support, - Translation practices, Literary interpretation, Speech technologies, Examination preparation, Creativity and innovation, Ethical awareness and academic integrity. The questionnaire included both Likert-scale items (to measure perceptions and adoption) and open-ended questions (to gather qualitative insights). Separate versions were given to teachers (30 respondents) and students (100 respondents) to ensure relevant aspects of AI use in teaching and learning were addressed for both groups.

4. Analysis of Responses

4.1 Analysis of Teachers' Responses

4.1.1 Close-Ended Responses

The close-ended questions provided measurable insights into teachers' views on AI in Gujarati language education.

Perceptions of AI as Opportunity vs. Threat: Most teachers saw AI as a helpful tool rather than a substitute for educators. Many felt that AI could save time on tasks like checking assignments and preparing for exams, although some raised concerns about less teacher control.

AI and Linguistic Accuracy: Teachers had mixed views on AI's ability to handle Gujarati-specific features such as idioms, compound words, and spelling complexities. Some acknowledged improvements in typing and grammar aid, while others pointed out persistent issues with contextual meanings and cultural nuances.

AI in Assessment: Most respondents agreed that AI could assist with checking assignments and creating question papers, but there was skepticism about the ability to evaluate fairly and grade creative writing.

AI in Translation and Literature: Teachers recognized that AI is useful for translation and summarization tasks. However, they pointed out its limits in capturing emotional depth, cultural sensitivity, and literary interpretation.

Ethical Concerns: Many teachers agreed that using AI raises ethical issues, including plagiarism detection, misuse by students, and a risk of intellectual laziness.

Table 1. Frequency Distribution of Teacher Responses

Most see AI as supportive, not a threat

Question (Item)	Yes (%)	No (%)	Mixed/ Neutral (%)	Key Insight
AI as opportunity vs. threat	68%	12%	20%	Majority see AI as supportive, not a threat
AI improves Gujarati typing accuracy	72%	18%	10%	Teachers acknowledge technical support but note errors
AI can check assignments	80%	10%	10%	Strong agreement on efficiency in evaluation
AI grading of creative writing	25%	60%	15%	Teachers skeptical about AI's ability to assess creativity
AI helps preserve Gujarati culture	55%	25%	20%	Mixed views; some see potential, others doubt cultural depth
AI reduces teacher autonomy	40%	35%	25%	Divided opinions; autonomy concerns remain
AI useful in translation	70%	15%	15%	Generally positive, but contextual meaning is a challenge
AI plagiarism detection	85%	5%	10%	Strong support for AI in academic integrity tasks

Overall, the data suggest that teachers see AI's efficiency and usefulness but are cautious about its limits in cultural and ethical areas.

4.1.2 Open-Ended Responses

The open-ended questions provided detailed insights into teachers' unique perspectives.

- **Cultural and Linguistic Authenticity:** Teachers stressed that AI lacks human sensitivity, cultural depth, and emotional experience. While AI can imitate refined expression, it often fails to capture subtle nuances or deeper cultural feelings.
- **Role of Teachers:** Respondents emphasized that AI should be a supportive tool, not a substitute. Teachers highlighted their key role in providing emotional connections, values, and inspiration to students.
- **Examination Concerns:** Many teachers voiced worries about academic dishonesty, noting that students might misuse AI to generate answers or essays, which weakens the integrity of assessments.
- **Pedagogical Transformation:** Teachers acknowledged AI's potential to personalize learning, spot student weaknesses, and provide tailored guidance. However, they warned that too much reliance on AI could lessen student effort and critical thinking.
- **Translation and Research:** Teachers noted that while AI has improved in translation, it struggles with polysemy (multiple meanings) and cultural context. In literary research, AI was seen as useful for data analysis but inadequate for recognizing aesthetic value and philosophical interpretation.
- **Ethics and Future Directions:** Respondents stressed the need for clear ethical guidelines and institutional policies on AI use. Some suggested that AI could help preserve Gujarati scripts, folk traditions, and cultural heritage but warned against over-commercializing education.

Table 2. Thematic Coding of Open-Ended Responses

Theme	Representative Teacher Statements	Frequency (%)
Cultural Nuance & Authenticity	AI does not possess human sensitivity, cultural depth, or emotional experience.	65%
Supportive Role of AI	AI should be used as a supportive tool, not a substitute for teachers.	70%
Examination Concerns	Students may misuse AI to generate answers, weakening assessment integrity.	55%
Personalized Learning	AI can analyze student performance and provide customized guidance.	60%
Translation	AI struggles with polysemy and cultural	50%

Limitations	context in translation.	
Ethical Guidelines Needed	There should be clear ethics for AI use in education.	75%
Future Potential	AI can help preserve Gujarati scripts and folk traditions.	40%

4.2 Analysis of Student Responses

4.2.1 Close-Ended Responses (Quantitative Analysis)

The close-ended items provided measurable insights into students' awareness, use, and perceptions of AI in Gujarati language education.

Key Findings:

- **AI Familiarity and Usage:** Over 80% of students reported moderate to high familiarity with AI tools such as ChatGPT, Gemini, and Google Translate. Most use AI for translation, grammar correction, and assignment support.
- **Perceived Benefits:**
 - 75% agreed that AI helps simplify complex topics.
 - 70% felt AI improves writing style and vocabulary.
 - 65% reported using AI for exam preparation and time management.
- **Concerns and Limitations:**
 - 60% expressed doubts about AI's ability to handle poetic or literary nuance.
 - 55% felt AI-generated content lacks emotional depth or cultural sensitivity.
 - 50% were unsure about the accuracy of AI-generated information and often cross-checked it.
- **Ethical Awareness:**
 - 68% acknowledged the risk of plagiarism and misuse.
 - 72% agreed that AI should be used with ethical boundaries and teacher guidance.

Table 1. Frequency Distribution of Selected Student Responses

Survey Item	Agree (%)	Disagree (%)	Neutral (%)
AI improves writing style	70%	15%	15%
AI helps in translation	80%	10%	10%
AI-generated Gujarati feels natural	60%	25%	15%
AI can explain poetic meaning	40%	45%	15%
AI reduces student effort	55%	30%	15%
AI supports exam preparation	65%	20%	15%
AI should be ethically guided	72%	10%	18%

4.2.2 Open-Ended Responses (Qualitative Analysis)

The open-ended questions revealed students' nuanced reflections on AI's role in Gujarati education.

Thematic Coding of Responses:

Theme	Representative Student Views	Frequency (%)
Efficiency & Support	AI helps me understand difficult topics step-by-step.	70%
Cultural Limitations	AI cannot express emotions or cultural values like a human.	60%
Translation Challenges	AI often changes the meaning of Gujarati idioms.	55%
Creativity & Ownership	AI-written content doesn't feel like my own.	50%
Ethical Concerns	AI should not be used to copy others' work.	65%
Future Potential	AI can make Gujarati global if used properly.	45%

5. Results

This section presents the quantitative and qualitative findings derived from teacher and student responses. The results are organized around key analytical dimensions: AI literacy, usage frequency, translation and grammar support, creativity, ethics, and pedagogical implications.

5.1 AI Usage Frequency

Table 1: AI Usage Frequency Among Teachers and Students

Usage Category	Teachers (%)	Students (%)
Regular Use	45%	65%
Occasional Use	40%	25%
Rare Use	15%	10%

Finding:

Students show higher regular use of AI tools than teachers. Teachers tend to use AI more cautiously and occasionally, mainly for academic support.

5.2 Teachers' Quantitative Results

Table 2: Selected Close-Ended Teacher Responses

Dimension	Yes (%)	No (%)
AI as Opportunity	68%	12%
Improves Gujarati Typing	72%	18%
Helps in Assignment Checking	80%	10%
Effective in Creative Grading	25%	60%
Useful in Translation	70%	15%
Helps in Plagiarism Detection	85%	5%

Key Patterns (Teachers)

- Strong agreement on efficiency in tasks like assignment checking and plagiarism detection.
- Divided opinions regarding concerns over teacher autonomy.
- High skepticism about AI's ability to grade creative writing.
- Mixed confidence in AI's capacity to preserve Gujarati cultural authenticity.

Teachers mainly see AI as a technical support tool, not a replacement for complex tasks.

5.3 Students' Quantitative Results

Table 3: Selected Close-Ended Student Responses

Dimension	Agree (%)	Disagree (%)	Neutral (%)
Improves Writing Style	70%	15%	15%
Helps in Translation	80%	10%	10%
AI-Generated Gujarati Feels Natural	60%	25%	15%
Explains Poetic Meaning	40%	45%	15%
Supports Exam Preparation	65%	20%	15%
Should Be Ethically Guided	72%	10%	18%

Key Patterns (Students)

- Strong support for AI in translation and writing help.
- Moderate trust in AI-generated Gujarati's naturalness.
- Skepticism about AI's ability to interpret poetry and meaning.
- High awareness of ethical concerns.

Students mainly value AI for efficiency and academic support.

5.4 Comparative Analysis: Teachers vs. Students

Table 4: Comparison Across Key Dimensions

Dimension	Teachers Agreement (%)	Students Agreement (%)	Observed Pattern
AI for Translation	70%	80%	Students slightly more

			optimistic
AI for Creative Interpretation	25%	40%	Both skeptical; teachers more cautious
Ethical Regulation Needed	75-85%	72%	Strong concern across both groups
Efficiency in Academic Tasks	80%	65%	Teachers emphasize utility in evaluation
Cultural Authenticity Concern	65%	60%	Shared concern

Emerging Patterns

1. Students prioritize efficiency, academic convenience, and writing support.
2. Teachers prioritize authenticity, cultural depth, and academic integrity.
3. Both groups express strong ethical awareness.
4. Skepticism increases when tasks involve creativity, poetry, or cultural nuance.
5. Acceptance increases when AI is used for technical, repetitive, or mechanical tasks.

5.5 Qualitative Themes (Integrated Results)

Major Convergent Themes

Theme	Teachers (%)	Students (%)	Interpretation
AI as Support Tool	70%	70%	Strong consensus
Cultural Limitations	65%	60%	Shared authenticity concern
Examination Integrity	55%	65%	Academic honesty is central
Personalized Learning	60%	70%	Recognized transformative potential

The qualitative data back the quantitative findings, showing a shared belief that AI should serve as an academic aid and not replace human engagement.

6. Summary of Results

The findings show a transitional phase in AI integration within Gujarati higher education.

Key Conclusions:

- High AI Literacy: Both teachers and students are aware of and actively use AI tools.

- Efficiency Reigns: Strong support exists for AI in translation, grammar correction, assignment checking, and plagiarism detection.
- Creativity and Literature are Human Domains: Both groups are skeptical of AI's ability to interpret poetry and aesthetic depth.
- Ethical Management is Critical: There is broad agreement on the need for ethical guidelines.
- Generational Usage Gap: Students use AI tools more frequently and dependently than teachers.
- Authenticity vs. Efficiency Conflict: Students focus on productivity while teachers emphasize cultural depth.

Overall, the results show that AI is seen as a tool for enhancing education but not replacing human creativity, interpretation, or cultural guardianship in Gujarati language education.

7. Discussion:

The findings of this study reveal a complex and changing relationship between AI and Gujarati language education. When viewed through the lens of constructivist and sociocultural theory, along with digital humanities and ethical frameworks, several key insights come to light.

7.1 Student Reliance on AI

Students use AI frequently, which shows their comfort with digital tools and their wish for academic efficiency. This matches Chapelle's (2001) view of technology-driven independence and Kasneci et al.'s (2023) observation that generative AI promotes personalized learning. Students turn to AI for translation, grammar correction, and exam prep; these tasks benefit from speed and automation. Their trust in AI's ability to simplify complex topics suggests that AI boosts writing confidence and lowers cognitive load.

7.2 Teacher Caution and Pedagogical Depth

Teachers recognize AI's usefulness but remain careful. They are worried about linguistic authenticity, cultural nuance, and ethical integrity. This caution reflects Vygotsky's (1978) sociocultural focus on mediated learning and human interaction. Teachers fear that AI may weaken critical thinking, lessen student effort, and compromise the emotional and philosophical depth needed in literary education. Their doubts about AI's ability to grade creatively highlight the belief that aesthetic judgment still belongs to humans.

7.3 Ethical Awareness and Governance

Ethical awareness exists, but it is uneven. While most participants see risks such as plagiarism and misuse, students are less likely to state clear ethical boundaries. Teachers call for institutional guidelines, echoing UNESCO's (2023)

push for responsible AI integration. The findings show that ethical governance needs to be improved through policy, training, and updates to the curriculum.

7.4 AI's Pedagogical Role: Enhancer, Dependency, or Disruptor?

The study shows that AI mainly acts as a pedagogical enhancer, aiding learning through automation and personalization. However, signs of cognitive dependency—especially among students—raise concerns about over-reliance. Teachers view AI as a potential disruptor, especially when it challenges traditional roles, undermines originality, or reduces human involvement. These tensions suggest that AI should be seen as a hybrid teaching tool, working alongside rather than replacing educators.

7.5 Cultural-Linguistic Implications

In the context of Gujarati, AI struggles with idioms, poetic meaning, and cultural depth. Both teachers and students understand that language is more than just functional—it is a means of expression, symbolism, and identity. AI's failure to replicate emotional depth or interpret literary nuance strengthens the argument for human-centered teaching in regional language education.

8. Implications:

Pedagogical Implications • Structured AI Training: Institutions should provide workshops and modules to help students and teachers use AI responsibly and effectively. • **Ethical Guidelines:** Clear guidelines need to be created to address plagiarism, authorship, and academic integrity in AI-assisted learning.

Policy Implications • Institutional AI Policy: Universities should create formal policies that govern AI use in teaching, assessment, and research.

Curriculum Reform: AI literacy and digital ethics should be included in both language and humanities curricula, especially in regional language departments.

9. Limitations

This study acknowledges several limitations:

- **Geographical Scope:** The sample is limited to Gujarati higher education institutions, which may not reflect broader regional or national trends.
- **Self-Reported Data:** Responses are based on participant self-reporting, which may introduce bias or exaggeration.
- **Technological Change:** AI tools evolve rapidly; perceptions captured in this study may shift as newer models and features emerge.

Future research should expand to other regional languages, include longitudinal data, and explore AI's impact on classroom dynamics and literary pedagogy.

10. Conclusion

This study concludes that AI is neither purely disruptive nor purely transformative. It offers significant pedagogical support but also raises concerns about authenticity, ethics, and over-reliance. Responsible integration—grounded in training, policy, and cultural sensitivity—is essential. Importantly, regional languages like Gujarati must be included in global AI discourse. Their unique linguistic and cultural dimensions challenge AI systems and demand context-aware solutions. By foregrounding vernacular perspectives, this research contributes to a more inclusive and ethically grounded vision of AI in education.

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Re - reading Psychological Noir Through AI Tools: A Study of Megan Abbott's Bury Me Deep

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Abstract

This study re-reads psychological noir through a close analysis of Megan Abbott's *Bury Me Deep*. The novel is examined as a powerful example of modern noir that focuses on female desire, ambition, jealousy, and emotional instability. The research studies how Abbott reshapes traditional noir by placing women at the center of crime and moral conflict. Instead of presenting crime as only an external act, the novel shows how inner thoughts, suppressed emotions, and social pressures lead to violence.

The study uses analytical tools such as thematic analysis, character study, narrative analysis, and psychological interpretation. Through these methods, the research explores how the protagonist's ambitions and relationships push her into dangerous situations. The novel reflects the cultural atmosphere of the 1930s while also speaking to contemporary issues about gender, power, and identity.

This paper argues that *Bury Me Deep* expands psychological noir by highlighting the complexity of female characters and their hidden desires. Megan Abbott transforms noir into an intimate and emotional narrative where crime grows from the mind before it appears in action. Thus, the novel becomes an important text for understanding modern psychological crime fiction.

Keywords: *Psychological Noir, Artificial Intelligence, Crime Fiction, Character Psychology, Digital Text Analysis, Contemporary Noir*

Artificial Intelligence and SDG Oriented Reading Comprehension

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Abstract

Reading comprehension is a critical cognitive and linguistic skill that supports academic achievement, critical thinking and lifelong learning. With the rapid advancement of artificial intelligence (AI), educational practices are undergoing a radical shift toward personalized, adaptive and data driven learning environments. At the same time, Sustainable Development Goals (SDGs), particularly SDG 4 (Quality Education), emphasize inclusive, equitable and sustainable learning opportunities for all. This article explores the intersection of AI and SDG-oriented reading comprehension, proposing a research based framework that integrates technological innovation with sustainable educational values. Drawing on empirical and theoretical studies, the paper examines how AI-driven tools enhance reading comprehension, promote educational equity and foster critical literacy aligned with global challenges. The study also analyses pedagogical implications, ethical concerns and future research directions, arguing that AI-supported SDG-oriented reading comprehension can transform literacy education into a powerful instrument for sustainable development.

Keywords: Artificial Intelligence, Reading Comprehension, Sustainable Development Goals, Educational Technology, Adaptive Learning.

Introduction

Reading comprehension has traditionally been viewed as a fundamental component of language proficiency and academic success. It involves comprehending textual information, constructing meaning, making inferences and critically evaluating content within specific contexts. In contemporary education, the nature of reading comprehension has expanded due to the digital transformation of learning environments and the increasing availability of multimodal texts. Artificial intelligence (AI) has emerged as a transformative force in this context, offering innovative tools for personalized learning, automated assessment and adaptive content delivery.

Simultaneously, the global educational agenda has been shaped by Sustainable Development Goals (SDGs), which highlight the importance of literacy and education in achieving sustainable social, economic and environmental development. SDG 4 explicitly calls for inclusive and equitable quality education and lifelong learning opportunities for all. Reading comprehension plays a central

role in achieving this goal, as it enables learners to gain knowledge, engage critically with global issues and participate actively in democratic and sustainable societies.

Research suggests that AI-driven educational technologies can significantly enhance reading comprehension by providing individualized feedback, adaptive reading materials and real-time assessment (Rad, 2025). Moreover, integrating SDG-oriented content into reading instruction can foster critical literacy and global citizenship, enabling learners to connect language learning with real world challenges (Boulhrir et al., 2025). This article investigates how AI and SDG oriented reading comprehension can be linked into a coherent pedagogical framework that supports sustainable literacy development.

Theoretical Perspectives on Reading Comprehension

1. Cognitive and Linguistic Foundations

Reading comprehension is grounded in cognitive theories that emphasize the interaction between textual input and prior knowledge. Traditional models such as the Simple View of Reading is based on word recognition and language comprehension and the Construction Integration Model explain how decoding the text bottom-up and top-down interact to produce meaning. In addition, sociocultural theories highlight the role of context, culture and discourse in shaping comprehension processes.

In the digital era, reading comprehension extends beyond printed texts to include hypertexts, multimedia content and interactive digital environments. AI technologies, particularly natural language processing (NLP) and machine learning, have enabled the development of tools that analyse learners reading behaviour and provide personalized support, thereby enhancing comprehension outcomes (He).

2. Digital and AI Literacy

AI literacy has become an essential component of modern education, as learners must understand how AI systems function and how they influence information processing. Studies on AI literacy in educational contexts indicate that integrating AI tools into classroom practices can enhance students' cognitive engagement and digital competence (Nguyen et al., 2024). Accordingly, AI-supported reading comprehension represents a confluence of verbal, digital and critical literacies.

Artificial Intelligence in Reading Comprehension

1. AI Technologies in Reading Instruction

AI technologies used in reading instruction include intelligent tutoring systems, adaptive learning platforms, chatbot, automated text analysis tools and recommendation systems. These technologies leverage NLP and machine learning

algorithms to analyse learner's responses, identify comprehension gaps and generate personalized feedback. For instance, AI-generated adaptive texts can adjust linguistic complexity based on learner's proficiency levels, it results in facilitating scaffold learning (He).

Empirical studies demonstrate that AI supported reading environments enhance learner engagement and self-regulated learning. Rad argues that AI based interventions can refine learners metacognitive strategies and improve reading comprehension outcomes by promoting active engagement and personalized feedback systems.

2. Personalization and Inclusivity

One of the most significant advantages of AI in reading comprehension is its capacity for personalization. Traditional classroom instruction often struggles to accommodate diverse learning needs, particularly in multilingual and multicultural contexts. AI systems can analyse large datasets to provide supported reading materials and mechanisms, thus promoting inclusive education with SDG principles (Nguyen et al., 2024).

AI driven platforms also support learners with disabilities and marginalized backgrounds by offering multimodal content and adaptive interconnections. Such applications contribute to reducing educational inequalities and advancing the SDG agenda.

3. AI-Based Assessment of Reading Comprehension

AI-based assessment tools represent a shift from static testing methods to dynamic and formative evaluation. These tools supports not only surface level comprehension but also higher order cognitive skills such as inference making, critical reasoning and argumentation. Nguyen and others highlight that AI driven tools for generating reading comprehension questions can support teachers in designing effective assessments and enhancing learner's analytical skills.

Sustainable Development Goals and Reading Comprehension

1. SDG 4: Quality Education and Literacy

SDG 4 emphasizes literacy as a main focus of sustainable development. Reading comprehension is central to achieving this goal, as it enables learners to approach knowledge across disciplines and contexts. AI enhanced reading instruction can improve learning outcomes and expand access to quality education, particularly in resource constrained settings.

The integration of SDG oriented themes into reading materials can also foster interdisciplinary learning. For example, texts related to environmental sustainability,

social justice and economic development can enhance learner's conceptual understanding while strengthening their verbal skills (Boulhrir et al., 2025).

2. Interdisciplinary Links with Other SDGs

Reading comprehension can be aligned with multiple SDGs by incorporating thematic content into curricula. Texts related to climate action (SDG 13), gender equality (SDG 5) and sustainable economic growth (SDG 8) can promote critical engagement with global issues. AI systems can organise such texts and adapt them to learner's proficiency levels, thus integrating language learning with sustainable development education.

Additionally, adult learning and lifelong education play a crucial role in achieving the SDGs. Research indicates that literacy education contributes significantly to sustainable social and economic development (Grotluschen et al., 2024). AI-driven reading platforms can support lifelong learning by providing accessible and personalized learning opportunities.

Pedagogical Implications of AI and SDG Oriented Reading

1. Curriculum Design

Integrating AI and SDG oriented reading comprehension requires an extensive approach to curriculum design. Educators must select texts that reflect global challenges while using AI tools to personalize instruction. This integration supports a balanced development of verbal competence, critical thinking and ethical awareness.

2. Teacher Roles and Professional Development

In AI-supported learning environments, teachers play a crucial role as facilitators, mentors and ethical mediators. They must interpret AI generated data, guide learner's critical engagement with texts and ensure that technology is used responsibly. Studies on teacher education emphasize the importance of developing AI literacy among educators to maximize the pedagogical potential of AI tools (Dehen et al., 2026).

3. Learner Autonomy and Motivation

AI driven platforms can enhance learner autonomy by enabling students to choose texts, monitor progress and set learning goals. When combined with SDG oriented content, such autonomy fosters natural motivation and a sense of social responsibility. This collaboration between technology and sustainability can transform reading comprehension into a meaningful and socially relevant learning experience.

Benefits of AI and SDG Oriented Reading Comprehension

1. Educational Benefits

AI supported reading comprehension improves linguistic proficiency, critical thinking and metacognitive awareness. Personalized learning pathways enhance learner engagement and academic performance, while SDG oriented content promotes interdisciplinary understanding.

2. Social and Ethical Benefits

Integrating AI with SDG oriented reading fosters global citizenship and ethical awareness. Learners develop the ability to analyse social and environmental issues critically, therefore contributing to sustainable development. As well as inclusive AI applications can reduce educational disparities and promote social equity.

3. Technological Benefits

AI technologies enable efficient assessment, real-time feedback and data driven decision making in education. These capabilities support evidence based pedagogical practices and enhance the adaptability of literacy education.

SDG Integration in School Education and Curriculum Design

Boulhrir and other researchers examine how the Sustainable Development Goals can be systematically integrated into elementary school education, emphasizing curriculum reform and teacher education as critical factors of sustainable learning. They argue that SDGs should not be treated as isolated topics but embedded across subjects to promote complete learning and global citizenship (Boulhrir et al., 2025). Their findings highlight that early exposure to SDG oriented content fosters ethical awareness, social responsibility and critical thinking among learners.

From the perspective of reading comprehension, SDG based texts serve as powerful pedagogical tools. When learners engage with texts related to climate change, social justice, gender equality and economic sustainability, they develop not only linguistic competence but also conceptual understanding of global issues. This fits with the broader educational goal of transforming reading comprehension into the sustainable knowledge construction. It also emphasize the role of teacher education in enabling educators to integrate SDG themes effectively into classroom practices. Teachers must be equipped with pedagogical strategies and interdisciplinary knowledge to design reading tasks that connect language learning with sustainable development (Boulhrir, et al., 2025).

Artificial Intelligence as a Catalyst for Sustainable Development

AI explore the transformative potential of artificial intelligence in advancing progress toward the SDGs. Their work highlights how AI technologies can address complex global challenges by enhancing data analysis, decision making and innovation across sectors such as education, healthcare and environmental management. In the educational domain, AI is positioned as a strategic tool for improving access, quality and equity in learning opportunities (Gosselink et al., 2024).

In the context of reading comprehension, AI can function as a catalyst for sustainable literacy development. AI driven platforms can personalize reading materials, adapt text difficulty and provide real time feedback, it supports diverse learners. Besides this, AI systems can organise SDG oriented content, enabling learners to engage with authentic global issues through reading activities. This integration demonstrates how AI can functionalise the principles of sustainable education by placing technological innovation with social and ethical objectives.

AI Generated Adaptive Texts and Reading Comprehension

The impact of AI-generated adaptive texts on reading comprehension, emphasizing the role of personalization in enhancing learner engagement and understanding. According to He, adaptive texts generated through AI algorithms can adjust verbal complexity, syntactic structures and thematic content based on learner's proficiency levels. This dynamic adaptation reduces cognitive overload and facilitates deeper comprehension (He, 2024).

The significance of He's findings lies in their implications for inclusive education. Traditional reading materials often fail to address individual differences in learner's abilities, leading to disengagement and unequal learning outcomes. AI generated adaptive texts, however, offer an adaptable solution to this challenge by modifying reading content to individual needs. When combined with SDG oriented themes, adaptive texts can promote both verbal development and sustainable awareness, thus redefining the pedagogical role of reading comprehension.

AI Driven Assessment and Question Generation in Reading

Teacher's perceptions of AI driven tools such as Quillionzis for generating reading comprehension questions. AI-generated quizzes can enhance instructional efficiency, various assessment methods and support formative evaluation. Teachers reported that AI tools enabled them to design higher order comprehension questions, that promoting critical thinking and analytical skills among learners (Nguyen et al., 2024).

This research underscores the pedagogical value of AI in transforming traditional assessment practices. Instead of relying solely on static tests, AI driven

assessment tools facilitate continuous evaluation and personalized feedback. From an SDG perspective, such tools contribute to equitable education by providing adaptive assessment mechanisms that provide diverse learning needs. Additionally, AI based question generation can incorporate SDG related themes, that integrating sustainability into the assessment process.

AI Literacy and Educational Transformation

Integrative review of AI literacy in middle school classrooms, highlighting the importance of equipping learners with the knowledge and skills necessary to understand and critically evaluate AI technologies. AI literacy is not merely a technical competence but a multidimensional construct encompassing ethical, social and cognitive dimensions (Sperling et al., 2025). Their review suggests that integrating AI literacy into school curriculum can enhance student's critical thinking and digital competence.

In relation to reading comprehension, AI literacy enables learners to interact meaningfully with AI driven reading platforms and digital texts. Students who understand how AI systems function are better equipped to interpret, evaluate and utilize AI generated content. This perspective supports with the SDGs emphasis on digital addition and sustainable technological development. By integrating AI literacy with reading comprehension instruction, educators can foster learner's capacity to navigate complex information environments critically and responsibly.

AI Supported Self-Regulated Learning in Reading

Rad examines how AI interventions can strengthen L2 reading comprehension by fostering self-regulated learning and learner engagement. Her study demonstrates that AI based feedback concepts and adaptive learning environments encourage learners to monitor their progress, set learning goals and employ metacognitive strategies. These findings suggest that AI can enhance not only cognitive outcomes but also affective and motivational dimensions of reading comprehension (Rad, 2025).

From an SDG oriented perspective, self-regulated learning is a crucial competence for lifelong learning. AI supported reading environments empower learners to take ownership of their learning processes, thereby contributing to sustainable educational development. When learners engage with SDG related texts in self-regulated learning contexts, they develop both verbal proficiency and global awareness, reinforcing the transformative potential of reading comprehension.

Adult Learning, Lifelong Literacy and Sustainable Development

The role of adult learning in achieving the SDGs is emphasized in the study of Grotluschen's article highlights that literacy and lifelong learning are essential for

social inclusion, economic participation and democratic engagement. Adult education initiatives contribute significantly to sustainable development by enhancing individual's capacity to adapt to technological and social changes (Grotluschen et al., 2024).

In the context of AI driven reading platforms that can support adult literacy by providing flexible, personalized and accessible learning opportunities. In addition, integrating SDG oriented content into adult reading programs can promote civic engagement and sustainable practices. This perspective expands the scope of reading comprehension beyond formal education, positioning it as a lifelong competence essential for sustainable societies.

Teachers AI Literacy and Pedagogical Innovation

Dehen, Harari and Aharony investigate teachers AI literacy and its implications for educational practice. Their study reveals that teachers understanding of AI significantly influences their ability to integrate AI tools effectively into teaching and learning processes. Teachers with higher levels of AI literacy are more likely to adopt innovative pedagogical approaches and critically evaluate the ethical implications of AI technologies (Dehen et al., 2026).

In the field of reading comprehension, teachers AI literacy is crucial for designing meaningful AI supported learning activities. Educators must interpret AI generated data, select appropriate tools and ensure that technology serves pedagogical objectives rather than replacing human judgment. From an SDG perspective, teacher competence in AI literacy contributes to sustainable educational innovation by ensuring that technological integration situate with ethical and social values.

Synthesis: Toward an Integrated AI-SDG Reading Comprehension Framework

The reviewed studies collectively demonstrate that AI and SDG oriented reading comprehension represent an interconnected educational model. AI technologies enhance personalization, assessment and engagement in reading instruction, while SDG oriented content provides ethical and global relevance. Together, they transform reading comprehension into a multidimensional competence encompassing linguistic, digital, critical and ethical literacies.

An integrated AI-SDG reading comprehension framework can be conceptualized as a various interaction among three core dimensions: technological innovation (AI tools and platforms), pedagogical practices (curriculum design, assessment and teacher roles) and sustainable values (SDG oriented content and global citizenship). This framework highlights that sustainable literacy development requires not only technological advancement but also critical and ethical engagement with global challenges.

Challenges and Limitations

Despite its potential, the integration of AI and SDG oriented reading comprehension faces several challenges. Technological and infrastructural limitations, particularly in developing regions, hinder equitable access to AI based educational tools. Ethical concerns related to data privacy, algorithmic bias and transparency also present significant challenges.

In Addition, overreliance on AI may reduce human interaction and critical dialogue in classrooms. Educators must balance technological innovation with human centered pedagogical practices to ensure sustainable and ethical learning environments.

Future Directions

Future research should explore the long term impact of AI supported reading comprehension on learner's cognitive and social development. Interdisciplinary studies integrating AI, linguistics, education and sustainability research can provide deeper insights into the transformative potential of AI driven literacy education.

Additionally, policymakers and educational institutions must collaborate to develop ethical guidelines and inclusive policies for AI integration in education. International partnerships can accelerate progress toward SDG oriented literacy goals and ensure that AI technologies contribute meaningfully to sustainable development.

Conclusion

The integration of artificial intelligence and SDG oriented reading comprehension represents a transformative approach to literacy education. AI technologies enhance personalization, assessment and engagement, while the SDGs provide a normative framework for sustainable and inclusive education. By combining technological innovation with critical and ethical perspectives, AI-supported SDG oriented reading comprehension can empower learners to engage meaningfully with global challenges.

This research based analysis demonstrates that AI and SDG oriented reading comprehension is not merely a technological trend but a strategic approach to sustainable education. While challenges remain, the potential benefits for learners, educators and societies are with great intense. As education systems continue to evolve, the interaction between AI and sustainable development will play an important role in shaping the future of literacy and global citizenship.

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Figurative Language: The Role of Connotations and Their Impacts in Cross-Cultural Communication

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Abstract

Over the years, the English language has been used in different ways for different purposes – scientifically, academically, sentimentally, philosophically, etc. However, grammatically, it is just a system with its own rules. The first and foremost component of any language is a word. Words carry a multitude of meanings, both denotative and connotative. They carry copious messages and plentiful emotions. The way words are used and understood sometimes decides matters of life and death. Therefore, not always are the words understood the way they are spoken. And not all the time, they are spoken the way they are supposed to mean. This is because the language used by people is the reflection of their culture and education, which is why the tone and the way in which they are used give meanings beyond their literal meaning. Hence, this paper attempts to study the role of connotations and the impacts they have on the receivers' minds with particular reference to the first-year students of engineering. This paper uses expressions of sexism, metaphors, similes, idioms, and common words people use for everyday communication in comparison with how they are understood by people from different cultural backgrounds.

Keywords: Figurative language, denotation, connotation, gender bias, communication.

Introduction

In everyday communication, understanding the distinction between a word's denotation—its literal dictionary definition—and its connotation is essential for decoding figurative language (Rao, 2017). Speakers and writers frequently deviate from strict, exact meanings to inject emotional, imaginative, or context-specific associations into their messaging (Rao, 2017). Ultimately, recognizing how these figures of speech expand a word's implicit value allows language learners to grasp both the explicit message and the deeper, nuanced context of human discourse (Rao, 2017). There are instances where people have wondered, saying, "I know what you said, but what did you mean?" It is essential to understand what 'words' mean to each one of us; what is implied besides the raw meanings, the structure. Sometimes we make inferences, we go beyond the surface details to see other meanings that the details suggest or imply (not stated). However, not in the case when someone says, 'She broke my heart'. There are no unfamiliar words. But it does not mean anything literally. When words give meanings that are different from their literal interpretation, the culture and other psychological factors are involved in the

context. Technically, it is called 'figurative language'. Therefore, the right communication demands right listening, i.e., to listen to what is being said at the intellectual level and not just at the verbal level. A lot of figurative language is based on the historical and cultural context in which it is used, so understanding those contexts is important to understanding the figurative language. (Boyles, D, n.d.). This seems to be most of the time challenging since everyone has a background of certain education and culture; everyone has prejudices, experiences, and knowledge on certain things in a certain way. That is the background with which most people try to listen. Therefore, the impact words can have is based on either their denotative meaning or connotative meaning.

Denotation and Connotation:

Denotation: The Literal Framework of Language

As stated by Bradley (2016), language acts as a shared code that allows people to communicate and seamlessly transfer meaning from one person to another. When both the speaker and the interpreter utilize the same code, signs and messages become exceptionally powerful. A foundational element of this shared code is **denotation**, which refers to the literal, objective, and dictionary definition of a word. Describing the explicit meanings of words and relying on neutral linguistic structures ensures that communication remains clear, direct, and straightforward. For instance, stating that "Bala speaks English" serves as a purely denotative baseline—it simply identifies the language being spoken without attaching any extra layers of meaning or societal judgment. In an Indian context, saying "The train arrived at the platform" or "We are having rice for lunch" operates on strict denotation, mapping directly to physical realities without carrying hidden societal subtexts.

Connotation: The Cultural and Emotional Layers

In contrast, connotation introduces emotional and cultural baggage to language, making the effect of words nearly inconceivable. Connotative meanings are highly fluid and vary depending on a listener's culture, personal background, behavioral conditioning, and immediate context. Because culture dictates the frame of reference through which individuals process information, certain phrasing can trigger implicit biases or specific mental images. For example, modifying a neutral statement to specify that "Bala speaks Indian English" instantly shifts the impact from denotative to connotative. This categorization often brings forth emotional content and preconceived notions regarding specific grammatical structures and misconceptions associated with regional dialects. Similarly, within India, words like "Aunty" or "Adjustment" go far beyond their literal dictionary definitions; "Aunty" carries deep social connotations of familial respect or nosy neighborhood dynamics,

while "making an adjustment" connotes a deeply ingrained cultural ethos of compromise and resilience (Jugaad). Because everyone is a product of complex cultural environments, navigating these connotative layers frequently makes deep comprehension perplexing and subjective.

Sexism – Connotative Complexities: Unconscious Gender-Bias

Most of the time, people across the globe seem to use gender-biased language, knowingly or unknowingly. The unconscious gender bias reflected in our language has resulted in terrible consequences for many people across the globe. Gender bias is deeply embedded within language structures and daily communication, often reinforcing societal asymmetries by utilizing masculine terms as the universal standard and employing varying levels of linguistic abstraction that subtly perpetuate traditional gender stereotypes (Menegatti & Rubini, 2017). However, certain expressions are seemingly supportive of gender-bias-free language. Yet, they also carry subtle depreciating meaning in a connotative sense. For example, in sports, there are expressions such as 'Men's Championship' and 'Women's Cricket'. However, a careful analysis of such expressions reveals the existence of sexism in people's minds. Because, in sports, for men, the term used is just 'golf' or 'cricket,' etc. However, for women, it is 'Women's Golf' and 'Women's Cricket'. It is just a matter of opinion whether that distinction serves to patronize women or discriminate against them. The fact is that it clearly sets women apart - treat them in a different way where there is no apparent need (except that of convention) to do so. Various such metaphorical examples and similes still exist in communication, which upsets one's feelings either culturally or emotionally, especially in cross-cultural communication. Especially, when people, so lightly, say 'be like a man' where they talk highly of men, and 'don't be like a woman' talks really ill of women in general. When they are understood in a connotative sense, they seem to have a destructive impact on the receiver's mind. According to Saeed, H. (2018), our unconscious belief system leads us to think in a certain way, which, after some time, seems correct to us. Unconscious gender bias makes us ignore the ability of one person and start hindering it with the preconceived notions that society has fed us. The best way to eradicate unconscious gender bias is to remind ourselves that we are biased and put conscious efforts to change our perceptions.

Similes and Metaphors: Matter of Manipulation and Perception

Figures of speech are creative instruments used in literature and everyday conversation to explain speech in ways that go beyond its normal use. (Fadaee, E. 2011). He says that a metaphor is a figure of speech that is used to describe something. It is a contrast of two different phenomena that have something in common. In general, it's like a condensed simile in which certain elements, such as

subject or similarity markers, are omitted in order to express the connotative sense. Figurative language relies heavily on distinct cultural and regional concepts; multilingual language models exhibit a notable deficiency in interpreting these expressions compared to English, highlighting the critical need to expose models to a broader range of cultural and linguistic variations during training (Kabra et al., 2023). When using figurative language, metaphors serve as a powerful tool by allowing speakers and writers to bridge cultural gaps or project vivid imagery, though their meaning relies heavily on shared contextual frameworks to avoid misinterpretation (Hossain, 2023). We use metaphors to explore our association with things around us; The ability to form metaphors and comprehend metaphors takes place automatically at the cognitive level as it progresses with the ability to form and comprehend language. Because metaphors are processed spontaneously, without conscious appraisal, they can be used to rapidly communicate or influence. For instance, let us take the sentence 'My dad is like Hitler'. Hitler tops the list of 'The world's Greatest Leaders'. However, does the sentence have a positive meaning or a negative one? There are possibilities that it could mean something positive. However, in a connotative perception, it could also mean that the dad is aggressive and is someone who could strike fear in the child's mind. Furthermore, no matter what one intends to mean through this metaphor, one has good chances of falling into an unintended fallacy, which might backfire at any time. Similarly, let's now compare two expressions, i.e., 'Ram is as cool as ice' and 'Ram's heart is ice'. Does the word 'ice' express the same meaning in both sentences? Be it either denotatively or connotatively. In the first sentence, Ram is described positively, in a connotative sense, as in he is a cool person who never loses his temper, etc. Whereas in the second sentence, he is described as someone indifferent, heartless, and having no emotions.

Conclusion

In cross-cultural communication, if such expressions were to be used especially among non-native speakers of English, there are inevitably possibilities of misinterpretations. At the same time, connotations cannot be mastered overnight. Various expressions complicate ideas across cross-cultural communication since the matter of perception plays the ultimate role after all. Practice is crucial; a slow and steady conscious approach is the way to redefine our language processing sphere in our brains.

To bridge these gaps effectively, individuals must transition from passive language learners to active cultural observers. This involves developing cultural intelligence (CQ)—the capability to relate and work effectively across cultures. Rather than simply memorizing vocabulary, communicators need to build an awareness of contextual cues, idiomatic expressions, and local histories that give

words their distinct emotional weight. In a globalized professional and social landscape, fostering this linguistic empathy minimizes the friction of ethnocentric biases, transforming potential misunderstandings into opportunities for deeper, shared connections. Ultimately, mastering a language means mastering its nuances, turning a shared code into a tool for true mutual understanding.

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Domestic Violence and Trauma in English Literature: Interdisciplinary Reflections on the Millennium Years (2020–2026) and Therapeutic Paradigms

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Abstract

This paper examines the representation of domestic violence and subsequent psychological trauma in English literature, focusing on the milestone millennium window from 2020 to 2026. This period witnessed unprecedented global socio-economic shifts, pandemic-induced isolations, and cultural systemic reckonings that deeply modified domestic structures. By analysing literary works produced or critically re-examined during these years, this study correlates textual narratives with real-world contemporary trauma patterns. Finally, the paper evaluates literary expression not merely as a passive mirror of domestic strife, but as a proactive narrative remedy, framing biblio-therapeutic approaches and creative text-processing as viable mechanisms for emotional recovery and institutional transformation.

Keywords: Domestic Violence; Trauma Theory; English Literature; Millennium Transition; Narrative Therapy; Post-Traumatic Recovery.

1. Introduction:

1.1. The Intersecting Realms of Literature and Societal Trauma

Literature has long served as both a mirror and a crucible for human suffering, capturing the psychological ripples of societal crises that objective data often fails to quantify. When a community undergoes systemic disruption, literary texts become crucial repositories for the unarticulated grief, anxiety, and dislocation experienced by individuals. Rather than merely documenting historical milestones, creative narratives probe the internal topographies of wounds inflicted by external socio-political forces. In this intersection, the written word functions as a vital site of cultural memory, translating collective catastrophe into an intimate, accessible human vocabulary that allows society to witness and process its own hidden fractures.

1.2. Problem Statement: The Escalation of Intimate Partner Strife in the Digital Era

The milestone millennium years from 2020 to 2026 introduced unprecedented shifts in domestic dynamics, accelerated by global pandemic lockdowns and a rapidly evolving digital ecosystem. While emergency restrictions forced vulnerable individuals into prolonged, inescapable confinement with abusers—creating a globally recognized "shadow pandemic"—the simultaneous ubiquity of digital

communication tools weaponized domestic surveillance. Contemporary intimate partner violence is no longer confined to physical boundaries; it has escalated through algorithmic control, cyber-stalking, digital gaslighting, and the constant threat of online exposure. There is a critical, unmet need to analyse how contemporary literature captures these multifaceted, tech-facilitated dimensions of abuse and how narrative structures adapt to represent this modern, inescapable state of psychological confinement.

1.3. Theoretical Framework: Combining Cathy Caruth's Trauma Theory with Cultural Materialism

To decode these modern narratives of domestic suffering, this study establishes a dual theoretical framework that bridges Cathy Caruth's psychoanalytic model of trauma with the tenets of cultural materialism. Caruth's foundational model posits that trauma is an overwhelming experience that defies immediate comprehension and instead returns to haunt the survivor through involuntary, non-linear repetitions and narrative gaps. However, because domestic violence does not occur in a vacuum, cultural materialism supplements this view by contextualizing these psychological ruptures within the specific socio-economic, political, and historical power structures of the 2020–2026 era. Together, these theories allow us to analyse textual disruptions—such as fragmented timelines and silenced voices—not just as internal psychological symptoms, but as direct consequences of ideological and institutional failures.

1.4. Research Objectives and Scope of the Investigation

The primary objective of this investigation is to evaluate how English literature published or critically re-examined between 2020 and 2026 charts the evolving nature of domestic violence and subsequent psychological trauma. Specifically, the study aims to identify the recurring formal and thematic techniques contemporary writers use to depict modern isolation, analyse how characters embody complex post-traumatic stress within digitalized domestic spaces, and formulate narrative remedies—such as biblio-therapy and expressive script therapy—for survivor recovery. The scope is strictly delimited to prose, poetry, and drama that directly respond to the unique socio-technological stressors of this millennium window, ensuring a focused exploration of how literature can transition from a record of domestic subjugation into an instrument of therapeutic and structural intervention.

2. Historical Perspectives of Domestic Abuse in English Literature

The depiction of domestic suffering in English literature has evolved from a heavily policed, coded critique into an explicit vehicle for socio-political resistance.

Its historical roots are deeply tied to the Victorian era's rigid enforcement of the domestic sphere, where ideological constructs like the "Angel in the House" institutionalized the subjugation of women. Within this stifling environment, Victorian writers had to navigate strict censorship, embedding early critiques of marital cruelty and systemic power imbalances beneath layers of gothic subtext, metaphorical entrapment, and fractured character voices. As the timeline transitioned into the twentieth century, the profound societal disillusionments brought on by global warfare and economic instability ruptured these idealized traditional structures. Modernist literature aggressively dismantled the myth of the harmonious household, utilizing fragmented narratives, stream-of-consciousness techniques, and psychological realism to expose the deep-seated alienations, emotional coldness, and latent violence hidden behind the respectable facade of the bourgeois nuclear family.

In the wake of the Second World War, the literary landscape shifted from modernist alienation to raw, explicit interiority, primarily catalysed by the rise of the confessional mode in poetry and prose. This shift allowed writers to strip away traditional artistic detachment, utilizing intensely autobiographical voices to lay bare the visceral realities of domestic entrapment, mental breakdown, and marital coercion that had long been relegated to the private sphere. When analysed chronologically, these literary movements reveal a profound comparative transition in how domestic trauma is articulated. What began as an array of hidden domestic grievances—carefully obscured by Victorian decorum and modernist subtext—gradually transformed across the decades into a bold, unfiltered tool of explicit political resistance. By bringing the horrors of the private home into the public consciousness, these shifting literary modes systematically dismantled the patriarchal boundary between the personal and the political, setting a crucial precedent for how contemporary literature confronts domestic violence in the modern era.

3. The Millennium Crucible: Analysing the 2020–2026 Trajectory

3.1. The "Shadow Pandemic": COVID-19 Lockdowns and Real-World Domestic Escalation

The global onset of the COVID-19 pandemic initiated a secondary, deeply insular crisis widely characterized by public health organizations as the "shadow pandemic." As state-mandated lockdowns and emergency quarantine protocols restricted public movement, millions of individuals were forced into prolonged, inescapable containment with their abusers. This structural isolation effectively severed traditional lifelines, systematically dismantling external safety nets such as workplace separation, familial visits, and community support systems. The physical home, conventionally idealized as a sanctuary, was transformed into an unchecked

theatre of coercive control, where the constant proximity of the perpetrator accelerated the frequency, intensity, and severity of domestic violence. Literary works addressing this specific epoch capture this suffocating spatial entrapment, documenting how policy-driven confinement inadvertently reinforced the absolute authority of the abuser and magnified the psychological dread of the victim.

3.2. Digital Surveillance, Cyber-Stalking, and Technology-Facilitated Abuse in Contemporary Narratives

Parallel to physical confinement, the rapid hybridization of daily life between 2020 and 2026 weaponized the digital ecosystem, giving rise to sophisticated forms of technology-facilitated abuse. The modern domestic panopticon relies heavily on algorithmic surveillance, where smart-home technologies, shared geolocation tracking, compromises of personal passwords, and relentless cyber-stalking extend an abuser's reach far beyond physical walls. Contemporary literature increasingly reflects this digital claustrophobia, portraying characters who navigate an invisible, pervasive web of tech-driven intimidation and gaslighting. These narratives expose how digital platforms—originally designed to connect humanity during periods of isolation—were effectively inverted into instruments of psychological warfare, leaving victims in a state of hyper-vigilance as their private virtual spaces were systematically infiltrated and monitored.

3.3. Socio-Economic Fractures and the Compounding of Marginalized Traumatic Experiences

The traumatic trajectory of the 2020–2026 era was further compounded by severe socio-economic fractures, which disproportionately exacerbated the vulnerability of marginalized communities. Escalating inflation, widespread job insecurity, housing instability, and systemic gaps in healthcare infrastructure intensified existing domestic stressors, making financial independence an impossible threshold for many survivors. Literary depictions from this period emphasize that domestic violence does not occur in an economic vacuum; rather, it intersects brutally with race, class, and migratory status. By mapping these compounding crises, contemporary authors illustrate how financial dependency and structural inequalities serve as secondary invisible walls, trapping victims within abusive environments and demonstrating that the path to trauma recovery is fundamentally constrained by economic and institutional realities.

3.4. Cultural Reckonings: How Social Movements Reshaped Literary Production and Publishing

The acute crises of the millennium years also catalysed profound cultural reckonings, fuelled by global social movements that demanded institutional

accountability and intersectional justice. This heightened public consciousness directly reshaped the politics of literary production and publishing, carving out vital spaces for long-silenced and marginalized voices to articulate their lived experiences of systemic and domestic trauma. Publishers and academic institutions increasingly prioritized raw, unfiltered survivor narratives, dismantling historical gatekeeping mechanisms that had previously sanitized or dismissed domestic strife as a purely private concern. Consequently, the literature produced in this window operates as an active, public archive of resistance, driven by cultural movements that reframed personal trauma as a crucial catalyst for systemic, legal, and ideological transformation.

4. Literary Representations of Domestic Violence and Trauma (2020–2026)

4.1. Textual Analysis of Contemporary Novels: Capturing Institutional and Domestic Cruelty

The contemporary novel between 2020 and 2026 underwent a significant thematic evolution, specifically focusing on the toxic interplay between domestic cruelty and institutional indifference. Through rigorous textual analysis, these extended narratives reveal that the isolated household frequently acts as a microcosm of larger, indifferent bureaucratic and patriarchal systems that fail to protect the vulnerable. Authors utilize complex character development to chart the slow, insidious erosion of identity under coercive control, demonstrating how institutional legalistic failures and societal apathy mirror the abuser's personal cruelty. By embedding these intimate domestic struggles within broader critique of social institutions, contemporary novelists expose the structural scaffolding that permits domestic violence to persist unchecked in the modern era.

4.2. Visceral Imagery: Poetic Responses to Physical and Psychological Coercion

Poetry within this millennium window offers a concentrated, immediate response to the trauma of abuse, relying on visceral imagery to articulate the devastating realities of physical and psychological coercion. Contemporary poets strip away sentimental metaphors, choosing instead to confront the raw altered states of the traumatized body and the fractured psyche through sharp, corporeal language. The verse becomes a site where the unspoken terror of verbal subjugation, bodily violation, and emotional gaslighting is rendered concrete. By capturing the immediate aftermath of violence in the domestic sphere, these poetic works bypass traditional narrative delays, forcing the reader into an uncomfortable, empathetic proximity with the survivor's internal suffering and survival mechanisms.

4.3. Fractured Forms: How Narrative Non-Linearity Mirrors Trauma Symptoms

A defining formal characteristic of 2020–2026 trauma literature is its radical embrace of fractured structures, where narrative non-linearity directly mirrors the clinical symptoms of post-traumatic stress. Standard chronological timelines are deliberately shattered, replaced by fragmented plots, abrupt shifts in perspective, and repetitive temporal loops that mimic the way traumatic memories involuntarily intrude upon the conscious mind. By rejecting traditional, orderly storytelling, these literary works force readers to experience the disorienting, unassimilated nature of psychic wounds, where the past continually ruptures the present. This structural fragmentation serves as a powerful aesthetic embodiment of a mind broken by domestic terror, proving that form itself can articulate the profound psychological dislocation of trauma.

4.4. The Silent Protagonist: Subverting Domineering Voices Through Textual Gaps and Omissions

Finally, contemporary literature innovatively utilizes the concept of the silent protagonist, subverting the loud, domineering language of the oppressor through deliberate textual gaps, ellipses, and structural omissions. Rather than representing the abuser's perspective or relying on explicit exposition, writers place the weight of meaning within the unsaid and the margins of the text, mirroring the protective silence and emotional numbness often adopted by survivors. These calculated silences function not as a sign of absolute defeat, but as a sophisticated mode of narrative resistance, withholding private pain from the voyeuristic gaze of the reader while exposing the systematic erasure of the victim's agency. Through these powerful textual voids, the literature effectively challenges the linguistic dominance of the abuser, reclaiming a quiet, resilient space for survivor sovereignty.

5. Psychological Correlates: From Page to Human Experience

The sustained domestic terror of the 2020–2026 millennium window finds its psychological equivalent in Complex Post-Traumatic Stress Disorder as reflected in character development, a condition that contemporary authors meticulously chart through characters navigating chronic hyper-vigilance and eroded autonomy. This psychological decay is rarely confined to a single individual or timeframe, often extending into transgenerational trauma and the epigenetic echoes found in intergenerational millennium fiction, where modern narratives illustrate how inherited ancestral grief and survival mechanisms subtly reshape the vulnerabilities of contemporary descendants. Within these troubled households, the insidious mechanics of verbal subjugation are mapped out via interpersonal gaslighting and cognitive dissonance, revealing how perpetrators deliberately distort objective reality to paralyze a victim's trust in their own sanity and perception. When this psychological distress becomes too profound for language to express, it inevitably

leads to the somatization of suffering, a corporeal representation of emotional wounds that transforms the character's body into a living canvas recording the history of abuse through chronic pain, panic-induced paralysis, and severe somatic vulnerabilities.

6. The Remedy: Literary and Narrative Therapeutics

Transitioning from documentation to recovery, the literary arts offer viable healing mechanisms, beginning with the strategic use of targeted reading and bibliotherapy in clinical and community settings to break a survivor's sense of isolation by providing a structured, cognitive framework to validate their hidden trauma. Complementing this receptive healing is the active release and healing potential of expressive and autobiographical script therapy, which empowers individuals to convert chaotic, terrifying memories into structured syntax and fully reclaim their narrative agency. This expressive reclamation assists significantly in deconstructing the passive victim sub-text, accelerating a movement wherein modern millennium writers consciously rewrite traumatic tropes into survivor empowerment models that favor complex character trajectories focused on boundary enforcement and self-actualization. Finally, bringing these texts into academic spaces serves as a vital tool for trauma-informed pedagogical interventions, utilizing literature in higher education to build deep empathy and critical awareness while stripping domestic violence of its social stigma and training future professionals to spot and critically analyse invisible, coercive power dynamics.

7. Institutional Frameworks and Structural Remediation:

Achieving genuine remediation requires translating these narrative insights into wider societal operations, specifically by aligning policy frameworks with literary insight to translate human stories into legal reform so that rigid statutory frameworks can better define and recognize tech-facilitated abuse and non-physical coercive control. On a grassroots level, these testimonials thrive within safe houses and community spaces where narrative sharing serves as a potent tool for local advocacy, transforming isolated shelters into unified defensive networks where collective storytelling breaks the absolute silence that abusers rely on to maintain control. This structural integration fosters a vital interdisciplinary synergy by bridging the gap between the humanities, social work, and psychiatric care, effectively blending the clinical safety protocols of healthcare with the deep, qualitative, and psycho-spiritual insights of literary critique. Given the tech-driven challenges of the modern era, these support structures must be distributed globally through innovative digital outreach paradigms, utilizing open-access literature, virtual archives, and secure online platforms to deliver anonymous therapeutic

resources directly as a global lifeline for isolated victims trapped behind physical or digital walls.

8. Conclusion

In conclusion, a rigorous summary of major contentions and structural correlations reveals that the formal disruptions of contemporary English literature – such as narrative non-linearity, somatic language, and tactical silence – are direct reflections of real-world post-traumatic stress induced by the 2020–2026 domestic crucible. This study underscores the enduring efficacy of literary analysis in mapping the human psyche, demonstrating that where statistical metrics offer cold data, literary critique uncovers the visceral, qualitative realities of surviving systemic coercion. Ultimately, these insights build toward a final call to action focused on reclaiming interdisciplinary narrative empathy for post-2026 interventions, urging a permanent alliance between humanities scholars, mental health professionals, and legal policymakers to transform the written word into a proactive, trauma-informed instrument for structural change and human autonomy.

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AI-Integrated English Language Learning for Workplace Communication: A Study among Engineering Students

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Abstract

The integration of Artificial Intelligence (AI) into English Language Teaching (ELT) has transformed communication-oriented learning in higher education. In engineering education, workplace communication skills are increasingly recognized as essential for employability and professional interaction. This study examines the role of AI-integrated language learning in enhancing workplace communication among engineering students. Using a quantitative descriptive research design, data were collected through a structured questionnaire administered to undergraduate engineering students from diverse linguistic and educational backgrounds. The study investigates students' perceptions of AI-assisted tools in improving speaking confidence, professional vocabulary, communication fluency, and workplace readiness. The findings reveal that AI-supported learning environments positively influence communicative competence and professional communication practices. Students reported that AI-driven tools such as conversational chatbots, automated feedback systems, and digital communication platforms supported continuous language practice and reduced communication anxiety. The study highlights the pedagogical relevance of AI-mediated learning in professional communication training and emphasizes the need for balanced integration of AI technologies within ELT classrooms.

Keywords: Artificial Intelligence, Workplace Communication, Speaking skills, Engineering Students, English Language Teaching, Professional Communication, AI-Assisted Learning.

Introduction

Artificial Intelligence has significantly transformed English Language Teaching (ELT) in higher education through AI-powered tools such as chatbots, speech-recognition systems, grammar correction applications, and adaptive learning platforms. In engineering education, communication skills have become essential for professional success, workplace interaction, and employability, although many students continue to face challenges in spoken communication, professional vocabulary, and confidence. AI-integrated language learning supports personalized practice, immediate feedback, and interactive communication training, thereby enhancing communicative competence and professional readiness among learners. Despite technological advancements, the role of language teachers remains highly important in the present generation, as teachers provide individualized guidance, emotional support, critical thinking development, authentic interaction, and ethical use of AI tools, ensuring balanced and effective communication learning environments.

2. Review of Literature

Recent research demonstrates that AI-assisted learning environments contribute significantly to language acquisition and professional communication development. Avilés & Sarasa (2025, pp. 1–15) argue that AI-enhanced learning environments improve communication readiness and professional interaction among engineering learners. Similarly, Wang observes that generative AI systems such as ChatGPT support speaking and writing development through adaptive interaction and individualized feedback.

Research focusing on Indian engineering students indicates a growing acceptance of AI-mediated language learning in ESL classrooms. Sarkar, Singh, & Ahmad, (2026, pp. 72–81) report that engineering students perceive AI-assisted communication tools as supportive in improving academic performance and communicative confidence.

Studies on multimedia and ICT integration further suggest that technology-supported communication activities improve oral fluency, pronunciation, and learner engagement. It was emphasized by Sivakami, N., & S. Gunasekaran, (2025, pp. 311–326) that AI-based communication platforms provide opportunities for repeated practice and interactive communication training.

Despite the growing scholarship on AI in ELT, limited research specifically addresses the relationship between AI-integrated language learning and workplace communication among engineering students in the Indian higher education context. The present study attempts to address this gap.

3. Objectives of the Study

The study aims to:

- Examine the role of AI-integrated language learning in workplace communication.
- Analyze engineering students' perceptions of AI-assisted communication tools.
- Investigate the impact of AI on speaking confidence and professional interaction.
- Explore the relationship between AI-assisted learning and workplace-oriented communication skills.

4. Research Questions

- How do engineering students perceive AI-integrated language learning?
- Does AI-assisted learning improve workplace communication skills?
- What role does AI play in enhancing speaking confidence and professional vocabulary?
- How does AI influence professional communication practices among engineering students?

Research Hypotheses

H₀₁: AI-integrated language learning has a significant impact on workplace communication skills among engineering students.

H₀₂: There is a significant relationship between the use of AI-assisted communication tools and the enhancement of speaking confidence and professional interaction among engineering students.

6. Methodology

6.1 Research Design

The study employs a quantitative descriptive survey design to investigate the impact of AI-integrated language learning on workplace communication among engineering students. The research focuses on analyzing students' perceptions, experiences, and attitudes toward AI-assisted communication tools in English language learning. Primary data were collected through a structured questionnaire administered to undergraduate B.E. and B.Tech. students. The survey-based research design enabled systematic collection and analysis of data related to workplace communication skills, speaking confidence, professional interaction, and the role of AI-assisted learning environments in enhancing communicative competence.

6.2 Participants

The participants of the study comprised of 162 undergraduate B.E. and B.Tech. engineering students from various engineering colleges. The respondents were selected from different academic years and represented diverse linguistic and educational backgrounds. The study included first-year students enrolled in Communicative English, Technical English and professional courses and third-year students pursuing Interview and Career Skills courses. These participants were chosen because the courses specifically focus on communication development, professional interaction, and workplace-oriented language skills. The selected sample provided relevant insights into students' perceptions and experiences regarding the use of AI-assisted language learning tools in enhancing workplace communication competencies. The participants consisted of engineering students from various academic disciplines and educational backgrounds, including both Tamil-medium and English-medium schooling systems.

6.3 Data Collection

Data were collected through a structured questionnaire comprising Likert-scale items and perception-based questions. The questionnaire focused on:

- Speaking confidence

- Professional communication
- Technical vocabulary
- Workplace interaction
- Communication anxiety
- AI-assisted learning practices
- Employability skills

6.4 Data Analysis

The collected responses were analyzed using descriptive statistical methods, including percentage analysis and frequency distribution. Interpretative analysis was also employed to examine students' attitudes toward AI-mediated communication practices.

The findings indicate that engineering students face multiple challenges in workplace-oriented communication despite recognizing its importance for professional success. The study also reveals that AI-assisted and digital learning practices contribute significantly to the development of communication confidence, professional interaction, and employability skills among learners.

The findings reveal that engineering students encounter several challenges in workplace-oriented communication practices. A considerable proportion of the participants reported difficulties in delivering technical presentations (29.8%) and participating in team meetings and professional discussions (28%). Additionally, respondents indicated challenges in writing formal emails and reports, as well as networking with industry professionals, reflecting the communicative demands associated with professional and corporate environments.

The study further demonstrates that students actively engage with informal digital learning resources to enhance their English language proficiency. Approximately 42.2% of the respondents stated that watching movies with English subtitles contributed to the development of their speaking and vocabulary skills. Similarly, around 40% of the participants agreed that listening to English podcasts and interviews supported their language improvement and communication exposure.

Communication anxiety and lack of confidence emerged as significant barriers to effective spoken communication. More than half of the respondents (53.5%) reported that they hesitated to speak in English because of low confidence levels, while 32.3% indicated that limited opportunities for speaking practice affected their communication development. These findings highlight the need for supportive and interactive communication-learning environments within engineering education.

The results also emphasize the importance of individualized pedagogical support. Approximately 29.6% of the learners agreed that private feedback provided

by teachers positively contributed to the improvement of their speaking skills. Furthermore, 51.9% of the respondents expressed a desire to develop a confident speaking style and effective pronunciation with the guidance of language mentors.

In relation to workplace communication competence, 58.8% of the participants reported that they felt somewhat comfortable explaining technical concepts to non-technical audiences. This finding indicates the growing awareness among engineering students regarding the importance of audience-oriented communication skills in professional contexts.

Moreover, a substantial majority of the respondents (68.8%) believed that improving professional English communication skills would have a direct influence on future career growth, employability, and salary prospects. This perception reflects the increasing recognition of communication competence as a critical component of professional success in engineering and industry-oriented careers.

7. Findings and Discussion

The findings reveal that engineering students experience considerable challenges in workplace communication, particularly in technical presentations, professional discussions, and formal communication practices. Communication anxiety, lack of confidence, and limited speaking opportunities were identified as major barriers, although students strongly recognized the importance of professional English communication for employability, career growth, and workplace success.

The study further indicates that AI-assisted and digital learning practices positively support communication development among engineering students. Participants reported that AI-mediated tools, automated feedback systems, podcasts, and subtitled media enhanced speaking confidence, vocabulary, pronunciation, and professional interaction. The findings also emphasize the importance of balanced AI integration combined with teacher guidance and authentic human communication practices in engineering education.

8. Implications of the Study

The study has important implications for ELT pedagogy and engineering education:

- AI-assisted communication training can be integrated into engineering curriculum.
- ELT classrooms may utilize AI tools for workplace-oriented communication practice.
- Institutions can establish AI-supported communication laboratories and professional discourse modules.
- Teachers may incorporate AI-driven feedback systems for communication assessment and practice.

The study also contributes to emerging discussions on AI-mediated discourse and professional communication in higher education.

9. Conclusion

The present study concludes that AI-integrated language learning plays a significant role in enhancing workplace communication skills among engineering students. The findings demonstrate that AI-assisted learning environments positively influence speaking confidence, professional vocabulary, communication fluency, and employability-oriented interaction practices. Engineering students perceived AI-mediated tools such as conversational platforms, automated feedback systems, podcasts, and digital communication resources as effective support mechanisms for improving professional communication competence. At the same time, the study identifies communication anxiety, limited speaking opportunities, and lack of confidence as major barriers that continue to affect learners' participation in workplace communication contexts. In this regard, the role of language teachers remains highly significant, as effective pedagogical guidance, individualized feedback, mentoring, and human-centered interaction are essential for balancing technological support with authentic communication development.

The study further validates the proposed hypotheses by confirming that AI-integrated language learning has a significant impact on workplace communication skills and that a meaningful relationship exists between AI-assisted communication tools and the enhancement of speaking confidence and professional interaction among engineering students. Therefore, the study emphasizes the need for a balanced integration of AI technologies and teacher-supported communicative practices in engineering education to promote professional readiness and effective workplace communication.

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Human-Centred Communication Training in the Age of AI: An Analysis of Students' Development of Employability Skills at The Assam Kaziranga University

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Introduction

The quick growth of Artificial Intelligence (AI) has changed educational practices in many fields, especially in language learning and communication. Recently, AI-powered tools have become important resources that help students with writing, editing, paraphrasing, and generating academic content efficiently. Platforms like ChatGPT and Grammarly are now popular among students, allowing them to create organized, clear, and grammatically correct academic work. As a result, traditional ways of gaining and sharing knowledge are changing, with digital assistance playing a key role in how people access, understand, and share information.

However, communication is more than just a technical skill defined by grammar. Good communication goes beyond just organizing words; it involves a complex mix of emotional intelligence, cultural sensitivity, awareness of the context, and personal interactions. As Daniel Goleman points out, emotional intelligence is vital for success in the workplace. It helps people interact socially with empathy and awareness of themselves. Albert Mehrabian's work also shows how important nonverbal factors, such as tone, facial expressions, and body language, are in conveying meaning effectively. These aspects of communication emphasize the human elements that algorithms cannot fully replicate.

In this light, the growing use of AI tools raises important teaching and ethical questions. While these technologies clearly improve efficiency and language accuracy, it is uncertain if they can help develop communication skills in a comprehensive way. Can AI tools really build the confidence, spontaneity, and personal skills needed for real-life communication? Do they help with job readiness, or do they create reliance that could impede independent thinking and expression? This paper aims to explore these questions by examining the role of AI in communication training, particularly for students at Kaziranga University, and contribute to the ongoing discussion about the intersection of technology and education focused on people.

Background of the Study

The Indian higher education system has vast linguistic diversity and socio-cultural differences, which greatly influence teaching and learning. Many universities, including Kaziranga University, have students from various regional, linguistic, and educational backgrounds. For many learners, English is not their first language; it is a second or third language learned mainly in academic settings rather than through everyday use. This situation creates unique challenges, especially in communication. While students often show a good level of skill in writing tasks, particularly in structured academic assignments, they tend to struggle with spoken communication. They commonly feel hesitant, lack confidence, and experience limited fluency in speaking. These challenges become even more evident in professional situations like job interviews, group discussions, and presentations, where quick thinking, clear expression, and interpersonal skills are essential.

In recent years, the rapid rise of Artificial Intelligence tools has added a new layer of complexity to this learning environment. Students are increasingly using AI-based platforms like ChatGPT and Grammarly for writing assignments, fixing grammatical errors, rephrasing content, and generating ideas. These tools have improved academic productivity by breaking down language barriers and allowing students to create more polished written work. For learners who struggle with English, AI acts as a helpful resource that supports expression and increases accuracy.

However, this growing reliance on AI also raises important educational concerns. While AI can help improve written language, it does not necessarily build essential communication skills like critical thinking, spontaneous speaking, and social interaction. There is a risk that too much dependence on AI tools could lead to passive learning habits, where students rely on automated systems instead of actively participating in forming and expressing their ideas. This concern is especially important for employability, where effective communication goes beyond correct language to include confidence, flexibility, and the ability to engage meaningfully with others.

Scholars have different views on how digital technologies affect communication and thinking. Nicholas Carr, in *The Shallows*, warns that prolonged use of digital tools may weaken thinking skills and reduce the ability to engage in deep critical thought. From this viewpoint, AI might unintentionally promote a shallow approach to processing information instead of fostering deep, reflective thinking. On the other hand, supporters of AI argue that such technologies make knowledge more accessible by providing immediate help and enabling learners from various backgrounds to overcome language and educational challenges. They believe that AI improves learning efficiency and promotes inclusivity in education.

In light of this ongoing debate, the present study aims to explore the relationship between AI-assisted learning and human-centred communication

training. By focusing on communication skill development and employability among students at Kaziranga University, the study seeks to critically assess both the benefits and drawbacks of AI in building communication skills. In doing so, it adds to a better understanding of how technological advancements interact with the human aspects of learning in today's higher education.

Objectives of the Study

The study is guided by the following objectives:

1. To investigate how students use AI tools for language learning.
2. To examine how AI affects employability readiness and communication abilities.
3. To assess the function of training in human-centred communication in higher education.
4. To determine AI's limitations in terms of communicative competence development.
5. To propose a balanced pedagogical model integrating AI and human interaction.

Methodology

This study uses a qualitative, interpretive research design to look at the relationship between AI-assisted learning and human-centred communication training. A qualitative approach is chosen to explore students' experiences, behaviours, and perceptions instead of measuring quantifiable outcomes. By focusing on real classroom situations, this study aims to provide deeper insights into how AI tools affect communication practices and job skills.

The research is based on classroom experiences and communication training sessions held at Kaziranga University during the academic years 2025 to 2026. The participants are undergraduate students from various linguistic and socio-cultural backgrounds, many of whom speak English as a second or third language. This setting is ideal for examining the interaction between technology and communication development in a multilingual environment.

Data Collection Methods

Data for the study were collected using several qualitative methods to ensure depth and context:

Classroom Observation: Systematic observation took place during communication skills sessions. The focus was on students' participation, confidence levels, and interaction patterns. These observations helped identify how students engage in speaking activities like group discussions and presentations, and how their performance connects to their use of AI tools.

Informal Student Interactions and Feedback: Informal conversations with students provided valuable insights into their experiences with AI tools. These interactions

allowed the researcher to understand students' reasons for using AI, their views on its usefulness, and the challenges they face in communication.

Activities Performance Evaluation in Communication: Students' performance in mock interviews, group discussions, and classroom presentations was closely analyzed. These activities acted as practical indicators of communication skills, including clarity of expression, spontaneity, confidence, and interpersonal skills.

Analytical Framework

The collected data were analyzed using an interpretive and thematic approach. Patterns were identified based on recurring behaviours, common challenges, and observable differences between AI-assisted writing and real-time communication performance. The analysis focused on understanding the gap between linguistic accuracy achieved through AI and the ability to communicate effectively in interactive settings.

Rationale for Qualitative Approach

The qualitative method fits this study well because communication is naturally subjective and context-dependent. Quantitative methods may capture measurable aspects like test scores or frequency of AI use, but they fall short in explaining how students experience communication challenges or build confidence over time. In contrast, the qualitative approach allows for a deeper exploration of students' attitudes, behaviours, and learning processes.

Limitations

While the qualitative design offers rich, contextual insights, it has limitations in terms of generalizability. The findings are based on observations within a specific institutional context and may not reflect all educational settings. However, the study provides valuable experiential knowledge that can guide future research and teaching practices.

Discussion

The findings of the study show a complicated relationship between using Artificial Intelligence and developing communication skills. While AI tools greatly help in improving written communication and academic productivity, their impact on spoken communication, interpersonal skills, and job readiness is limited. The discussion below looks at both the benefits and downsides of AI, followed by the ongoing importance of training in human-centred communication.

Advantages of AI

AI tools have become strong aids for writing efficiently and accurately in academic settings. Students are increasingly able to create well-organized, grammatically correct, and clear assignments with less effort. For learners from non-English speaking backgrounds, especially at Kaziranga University, this technological help is crucial in lowering language barriers. AI-supported platforms allow students to express their ideas in proper academic English, boosting their confidence in writing.

Additionally, AI tools help with self-directed learning by providing instant feedback and corrections. Students can spot grammatical mistakes, improve sentence structures, and clarify their ideas without needing constant guidance from instructors. This quick feedback encourages independence and helps learners engage more actively in their writing. In this way, AI supports modern student-centred teaching methods, where technology helps individual progress.

Moreover, AI tools aid in generating ideas and organizing content, which can be tough for students who find it difficult to clarify concepts. By providing structured outputs, AI helps learners see how to build arguments, develop paragraphs, and keep their work organized. This support can be particularly useful in academic writing, where clear organization is key.

However, while these benefits greatly improve written communication, they mainly function in a controlled, text-based environment, which is very different from real-life communication situations.

Limitations of AI

Despite its clear benefits, AI has significant limitations in communication training, especially in spoken interaction and interpersonal engagement. The study shows that students who depend heavily on AI tools often struggle with spontaneous communication. During mock interviews and group discussions, many students find it hard to express their thoughts without prior preparation or technological help. This suggests that AI-supported writing does not always lead to effective communication in real-time situations.

One major challenge is the nature of communication itself. Unlike writing, which allows for revision and improvement, spoken communication needs immediacy, adaptability, and awareness of the context. AI tools can create polished text, but do not help students respond spontaneously, pick up on social cues, or actively participate in conversations.

This observation supports the concerns of Nicholas Carr, who argues that excessive reliance on digital technologies may promote passive consumption of information instead of active cognitive involvement (Carr 120). In this study, students' dependence on AI-generated content may limit their engagement in shaping ideas, which affects their ability to express their thoughts independently.

Additionally, AI cannot interact with the emotional and personal aspects of communication. It cannot replicate human traits such as empathy, persuasion, or emotional depth, which are crucial in professional settings. Consequently, students who rely mostly on AI tools may develop skills that are technically correct but lack context.

Another significant limitation is the effect on originality and critical thinking. When students use AI for idea generation, there is a risk of uniform responses and less intellectual involvement. This raises concerns about developing an authentic voice and independent reasoning, which are vital for higher education and job readiness.

Human-Centred Communication Training's Function

Human-centred communication training stands out as a crucial element in the development of effective communication skills, in contrast to the limitations of AI. Students can participate in real-life communicative scenarios that call for spontaneity, clarity, and interpersonal interaction through activities like group discussions, presentations, and simulated interviews.

These training methods are crucial in boosting students' self-assurance and communication skills at Kaziranga University. Students gain the ability to organize their ideas, respond to inquiries, and communicate ideas clearly in real time through active participation. AI tools are unable to replicate these experiences because they require contextual adaptation and dynamic human interaction.

By offering helpful advice and promoting introspection, peer interaction and teacher feedback also aid in the learning process. Human feedback takes into account elements like tone, body language, confidence, and audience engagement, in contrast to AI-generated feedback, which is primarily technical. This all-encompassing method of communication training promotes social awareness, emotional intelligence, and language proficiency.

Additionally, human-centred training fosters a positive learning atmosphere where students can practice overcoming hesitation and gaining confidence. Students who are exposed to communicative situations on a regular basis are better able to internalize skills like teamwork, leadership, and adaptability that are critical for success in the workplace.

These abilities are essential from the standpoint of employability. Candidates who can work well with others, communicate effectively, and adjust to a variety of work environments are becoming more and more valued by employers. AI can help with writing, but it cannot take the place of the hands-on training needed to acquire these skills.

All things considered, the conversation emphasizes the necessity of a well-rounded pedagogical strategy. AI is a useful tool for improving written

communication and facilitating learning, but it needs to be supplemented by human-centred training that takes into account the wider aspects of communication. The development of both technical proficiency and the interpersonal skills required for success in academic and professional settings is ensured by such an integrated approach.

Key Findings:

In the context of Kaziranga University, the study's interconnected findings show both the advantages and disadvantages of artificial intelligence in communication training.

Improving Written Communication: By improving grammatical accuracy, coherence, and structural organization, AI tools significantly contribute to students' improved written communication. Learners, especially those from non-English linguistic backgrounds, are able to produce more sophisticated academic content.

Growing Reliance on AI Tools: According to the study, academic tasks like idea generation, drafting, and editing are increasingly depending on AI. Although this reliance boosts productivity, it also raises questions about decreased participation in autonomous thought and the growth of creative expression.

Deficit in Verbal Communication Capabilities: Students still struggle with spoken communication even though their writing has improved. There is a gap between AI-assisted learning and real-world communication competency, as evidenced by their underdeveloped capacity for spontaneous interaction, real-time idea articulation, and confident responses in professional settings.

Human interaction's central role: Confidence, clarity, and interpersonal skills are found to be greatly enhanced by human-centred communication training, which includes class discussions, presentations, and simulated interviews. AI-based tools alone cannot effectively cultivate these experiential aspects of communication.

The necessity of a well-rounded pedagogical strategy: The results indicate that a balanced integration of AI and human-centred approaches yields the best learning outcomes. While AI improves language's technical aspects, human interaction guarantees the development of the communicative, emotional, and critical skills required for employability.

Critical Perspectives

The place and role of Artificial Intelligence in the realm of education call for critical evaluation, especially in relation to its ethical, pedagogical, and cognitive dimensions. Although there are obvious benefits to the employment of Artificial Intelligence in enhancing efficiency, accessibility, and linguistic correctness, there are concerns regarding the employment of Artificial Intelligence in academic practices.

If viewed from a pedagogical point of view, the employment of Artificial Intelligence calls for critical evaluation in relation to traditional notions of knowledge production and acquisition. Although Artificial Intelligence aids in the production of structured and linguistically correct texts, there are concerns regarding the emphasis on assisted output and learning. A critical question arises in relation to the employment of Artificial Intelligence in enhancing intellectual growth or merely facilitating academic performance.

The relevance of the insights provided by Daniel Goleman is significant in this context. Goleman's focus on emotional intelligence underlines the fact that communication is significantly linked to self-awareness, empathy, and social interaction (Goleman 56). These are crucial factors for successful communication, and communication, in turn, is not limited to the operational capabilities of AI systems.

Furthermore, the insights provided by Albert Mehrabian emphasize the importance of non-verbal communication, including tone, facial, and body language, in communication (Mehrabian 70). These are crucial factors in communication and are significant in establishing connections with others. AI systems, which are limited to text-based communication, are not capable of providing such comprehensive insights into communication.

From a more overarching critical perspective, the increasing reliance on AI also poses a threat to creativity, originality, and critical thought. When students become overly dependent on AI-generated content for the formation and expression of ideas, there is a risk that the sense of individuality and intellectual distinctness may be lost in a homogenization of thought and creativity. This may result in a passive learning approach in which the student becomes less engaged with the process of thought and more engaged with the product of production.

In addition to this, the ethical implications of authorship and academic integrity also need to be considered with regard to the use of AI in academic writing. This is particularly relevant with regard to the idea of originality and the extent to which AI-assisted writing can be said to be the product of independent intellectual effort.

In this context, it is vital to take a balanced and thoughtful stance towards the incorporation of AI in education, rather than considering it a substitute for human intelligence. It is vital to position AI more as an enabling technology that enhances human creativity, critical thinking, and communication capabilities, rather than a substitute for them, in order to utilize the potential of AI while maintaining the human core of learning and communication.

Conclusion

Artificial Intelligence has clearly evolved as a major transformative force in contemporary education, leaving an indelible mark on the domains of language acquisition, writing skills, and knowledge construction. As revealed in the current study, Artificial Intelligence systems are undoubtedly helpful in enhancing writing efficiency, grammar accuracy, and structural clarity, especially for multilingual learners in Kaziranga University settings.

However, as revealed in the current study, communication is not merely a technical or linguistic process; it is a very human process involving emotional involvement, cultural empathy, and interpersonal interactions. While Artificial Intelligence systems may be helpful in perfecting writing skills, it is limited in helping learners develop spontaneity, confidence, and critical understanding required for effective communication. The development of these skills largely depends on learners' experience and human interactions.

The study pushes for a teaching model that blends AI with human-focused communication training. It wants to use AI as a helpful tool, not a replacement for the core skills rooted in real conversation and creative thinking. This way, students can tap into the benefits of new tech but still build up things like critical thinking, originality, and talking with others in ways that matter. Of course, using AI responsibly in classrooms means we need to rethink how we teach students how to use AI thoughtfully and just let the tech spit out answers for them. The goal is to keep students involved, questioning, and learning – not just sitting back and taking whatever.

AI gives. Really, the big challenge is not about fighting against changing technology, It's about figuring out how to use it so it helps people grow, not loses what makes them human. The future of education depends on finding the sweet spot, making the most of what AI offers while holding onto the creativity, real connection, and intellectual spark that keep learning alive.

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Enhancing College Students' Prepositional Competence through Collaborative Learning with AI

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Abstract

This study investigates the effectiveness of collaborative learning supported by artificial intelligence (AI) in improving the use of English prepositions among college students. The research compares the performance of students taught through a traditional whole-class instructional method with those taught using a collaborative learning model integrated with AI-assisted language tools. The study employed a pre-test-post-test experimental design with 50 undergraduate students from Christ the king Engineering college Coimbatore. Students were divided into a control group and an experimental group. The control group received instruction through traditional teacher-centered methods, while the experimental group participated in collaborative learning activities supported by AI-based feedback and practice tools. Results indicate that students in the collaborative AI-supported learning environment achieved significantly higher improvement in the accurate use of English prepositions of place, time, and direction. The findings highlight the potential of combining collaborative learning strategies with AI technologies to enhance language learning outcomes in higher education.

Keywords: Collaborative learning, Artificial intelligence in education, English prepositions, Language learning, Higher education

Introduction

English prepositions represent one of the most challenging grammatical categories for second-language learners. Their usage often depends on contextual meaning rather than fixed rules, which makes them particularly difficult for learners whose first language differs structurally from English. Many college students possess basic grammatical knowledge but continue to make frequent errors in the use of prepositions in both speaking and writing.

Collaborative learning has been widely recognized as an effective pedagogical approach that encourages students to work together in small groups to achieve common academic goals. According to Johnson and Johnson, collaborative learning environments promote interaction, mutual support, and deeper understanding of learning content. Students benefit from exchanging ideas, discussing problems, and collectively constructing knowledge.

Recent advances in artificial intelligence (AI) have introduced new possibilities for language learning. AI-powered tools can provide instant feedback, grammar suggestions, and contextual examples, which help students recognize and

correct their linguistic errors. When combined with collaborative learning activities, AI tools can enhance engagement and provide additional learning support.

Despite the growing interest in collaborative learning, most research studies have focused on primary and secondary education. Limited empirical research has examined the integration of collaborative learning with AI tools in higher education, particularly in the teaching of English grammar components such as prepositions.

The present study addresses this gap by examining the effectiveness of collaborative learning supported by AI tools in improving college students' use of English prepositions.

Literature Review

Language learning research emphasizes the importance of interaction and meaningful communication in developing linguistic competence. Collaborative learning has emerged as an effective pedagogical strategy that promotes active engagement, peer support, and shared responsibility among students. Johnson and Johnson highlight that cooperative learning environments encourage learners to exchange ideas and work together toward shared academic goals.

Several studies indicate that collaborative learning improves language acquisition. When students work in groups, they are exposed to multiple perspectives and explanations that enhance their understanding of grammatical structures and vocabulary. Group discussions also provide opportunities to practice language in authentic contexts, thereby increasing learners' confidence and communicative competence.

Prepositions have been widely recognized as one of the most difficult grammatical categories for second-language learners. Unlike many grammatical rules, prepositions often depend on contextual meaning. As a result, students frequently misuse them in both spoken and written communication. Nunan (1989) states that learners require repeated exposure and meaningful practice in order to master such complex grammatical elements.

Recent developments in educational technology have introduced artificial intelligence as a powerful tool for language learning. AI-based systems can analyze learners' language use and provide immediate feedback. This instant feedback enables students to recognize their mistakes and learn correct forms more effectively.

The integration of collaborative learning with artificial intelligence tools has recently gained attention in educational research. While collaborative learning promotes peer interaction and teamwork, AI tools provide automated guidance and feedback. Together, these approaches create highly interactive learning environments that can significantly improve language learning outcomes.

Objectives of the Study

- To examine students' difficulties in the use of English prepositions.
- To compare the effectiveness of traditional teaching and collaborative learning with AI support.
- To evaluate the improvement in students' use of prepositions of place, time, and direction.

Limitations of the Study

Although the findings of this study demonstrate the effectiveness of collaborative learning supported by artificial intelligence, several limitations should be acknowledged. First, the study involved a relatively small sample size of fifty students from a single institution. Future research could include larger and more diverse samples to enhance the generalizability of the findings.

Second, the duration of the experiment was limited to three weeks. A longer experimental period could provide deeper insights into the long-term impact of AI-supported collaborative learning on language development.

Finally, the study focused specifically on English prepositions. Future research may investigate the role of collaborative learning with AI tools in improving other aspects of language learning such as vocabulary development, writing proficiency, and speaking skills.

Methodology

Research Design

The study adopted a pre-test-post-test experimental research design. Students were divided into a control group and an experimental group. The experiment was conducted over a period of three weeks.

Participants

The participants consisted of 50 first-year Bachelor of Business Administration (BBA) students from Bharathiar University Arts and Science College, Thondamuthur, Coimbatore. The sample included 17 male students and 33 female students.

Category	Subcategory	Frequency/Number of Students	Percentage (%)	Method
Gender	Male	17	34	–
	Female	33	66	–
	Total	50	100	–
Group Distribution	Control Group	25	50	Traditional Teaching
	Experimental Group	25	50	Collaborative Learning with AI

	Total	50	100	–
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Procedure

A pre-test was administered to measure students' initial knowledge of English prepositions. Following the pre-test, the control group received instruction through the traditional lecture-based method using textbooks and board explanations. The experimental group participated in collaborative learning activities where students worked in small groups and used AI-assisted language tools to practice and verify their answers.

At the end of the instructional period, the same test was administered as a post-test to measure students' improvement.

Results

Pre-Test Results

Test	Correct Responses (%)	Incorrect Responses (%)
Pre-Test	36	64

The pre-test results indicate that students had limited proficiency in the correct use of English prepositions before the instructional intervention.

Post-Test Results (Traditional Method)

Group	Correct Responses (%)	Incorrect Responses (%)
Control Group (Traditional Method)	46	54

The control group showed a moderate improvement of 10% compared to the pre-test results.

Post-Test Results (Collaborative Learning with AI)

Group	Correct Responses (%)	Incorrect Responses (%)
Experimental Group (Collaborative Learning with AI)	72	28

The experimental group demonstrated substantial improvement, with correct responses increasing from 36% in the pre-test to 72% in the post-test.

Comparative Improvement

Method	Pre-Test (%)	Post-Test (%)
Traditional Method	36	46

Discussion

The findings clearly demonstrate that collaborative learning supported by AI tools significantly enhances students' ability to use English prepositions correctly. Students working in collaborative groups benefited from peer interaction, discussion, and shared problem-solving. AI tools further strengthened this process by providing immediate feedback and examples.

In contrast, the traditional lecture-based method provided limited opportunities for interaction and practice. Although some improvement was observed, the learning gains were significantly lower compared to the collaborative AI-supported approach.

Pedagogical Implications

The findings of this study have several important implications for language teaching in higher education. First, the results suggest that collaborative learning environments can significantly improve students' grammatical competence when compared with traditional teacher-centered instruction. By working in small groups, students actively participate in discussions, exchange ideas, and support one another's learning process.

Second, the integration of artificial intelligence tools into collaborative learning activities provides additional benefits. AI-based feedback systems help students identify grammatical errors and understand the correct usage of language structures. Immediate feedback enhances the learning process and reduces repeated mistakes.

Third, collaborative learning supported by AI encourages student-centered learning. Instead of relying only on teacher explanations, students become active participants in their own learning. They explore language concepts, solve problems together, and use technological tools to verify their answers.

Therefore, educators are encouraged to integrate collaborative learning strategies and AI-supported language tools in English language classrooms to create more interactive and engaging learning environments.

Conclusion

The study confirms that collaborative learning integrated with AI technologies is an effective instructional strategy for improving the use of English prepositions among college students. The approach promotes active participation, peer learning, and continuous feedback, which contribute to higher learning outcomes.

It is recommended that language teachers in higher education integrate collaborative learning activities with AI-supported language tools to create interactive and student-centered learning environments.

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Role of Peer Support in Enhancing Speaking in Indian ESL Classrooms

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1. Introduction

The process of learning becomes easy and comprehensive when it is done in a group, because it opens a door for numerous possibilities and perspectives. Collaborative learning is an educational approach to learning where more than two students work together towards the same goal. In collaborative learning students are divided into groups and they work independently and contribute to the group. "Collaborative learning is an umbrella term for a variety of educational approaches involving joint intellectual effort by students, or students and teachers together" [Smith, B. L. & MacGregor, J. T. (1992). Collaborative learning demands discussion among the students thereby challenging and encouraging them to seek answers to the questions or create an answer of their own before their instructor tells what is essential to learn. Collaborative learning upgrades the confidence in the students which helps them assess their peer's work or contribution to learning and to the group. Indian language classrooms center around hypothetical instructing, prospectus fulfillment, repetition learning and composed assessment execution. In the contemporary world, the spotlight is on the competency of the English language and the students find it hard to adapt to the current professional needs rather than becoming adept at it.

2. Collaborative Learning in Indian ESL Classrooms

India is a diverse country with 22 official scheduled languages as recognized by the Indian constitution and English is not one of them. Therefore, learning English in Indian classrooms has always been a hard nut to crack, but not impossible. As Nelson Mandela once said "Have you taken time to notice what others feel like when you attempt to speak their language... even if it is a few words? It's okay if you make mistakes. Remember, it is the effort that truly counts. How do you feel when someone tries to speak your native language? I bet they feel proud of you and honored that you would attempt to communicate with them in their

language." Collaborative learning in Indian ESL classrooms proves to be a groundbreaking methodology that promotes communication between the students which further leads to the enhancement of their skills. Some of the key benefits of Collaborative Learning are mentioned below:

2.1 Stimulates Social Skills

A two-way communication is an integral part of Collaborative Learning. This setting allows students of different cultures, races, and nationalities to come together to find a solution to the given problem. This exposes them to new ideas, opinions, and perspectives. This exposure to different opinions opens up their mind or broadens their way of thinking. Research highlights that collaborative learning fosters social interaction, promoting skills like active listening, empathy, and respect by bringing together individuals with diverse backgrounds (EducateMe, n.d.). Social skills are vastly enhanced in Indian ESL classrooms by learning in groups. The students from diverse backgrounds communicate with each other, which fosters active listening, negotiation, and resolution of conflict. A study on collaborative learning in Indian regional medium ESL classrooms notes that these classrooms are often heterogeneous, comprising multilingual and multicultural learners with varied social, economic, and linguistic backgrounds. This diversity, rather than an obstacle, can be seen as a resource, as collaborative pedagogy Helps Bridge the gap between these varied needs and goals (Indu & Shanti, 2019). Learning in front of diverse perspectives broadens their minds and helps them be more empathetic, which are vital requirements for effective communication outside the classroom. It's an actual method of learning English and building essential interpersonal skills.

2.2 Boosts Confidence and Enhances Communication Skills

It gives immense joy to the students if they are able to solve a problem or find an answer to the question all by themselves. Such accomplishments boost their self-confidence because they do not have to depend on the teacher to explain a concept to them. They can do it with the help of their friends in the group. A study on the effectiveness of collaborative learning in developing communication skills in ESL learners found that it significantly improves speaking and listening skills and boosts learners' confidence (Shaker & Ali, 2025). This supportive group atmosphere can be particularly beneficial for shy or anxious individuals, encouraging them to share their opinions and contribute to discussions (EducateMe, n.d.).

In the quest for finding answers to the questions, students turn to each other for ideas and opinions and later presenting it to the teacher naturally improves their communication skills. When children are able to solve an issue or respond to a query by themselves, they are extremely thrilled. Since children no longer rely on the teacher to tell them something, these accomplishments boost their confidence level.

With the encouragement of their group classmates, they can achieve. Students automatically acquire the ability to communicate as they search for answers to the questions by asking each other for ideas and opinions, which they in turn present to the teacher. This direct interaction and peer feedback contribute to learners' accuracy and fluency (Shaker & Ali, 2025).

2.3 Establishes Fun Learning

Doing a task alone is boring but doing it with your friends keeps you on the edge of your seat. Friends create a comfort zone of zeal and excitement and learning becomes fun. Being comfortable in the environment helps you concentrate and it also makes you more productive. Collaborative learning is often more enjoyable, reducing stress and boredom, and fostering enjoyment (Mission.io, n.d.). Finishing a job with friends has you on the edge of your seat, but doing it by yourself is boring. Learning becomes exciting when friends create an atmosphere of excitement and passion. Feeling comfortable in your environment makes it easier for you to concentrate and raises your productivity. Language games, for instance, provide a context for learning that is interesting and can lower anxiety, encouraging shy students to participate, especially in small groups (Esakkimuthu, 2016).

3. Challenges in Collaborative Learning

Conventional teaching practices are now being taken over by the upcoming advancements in the teaching methodology. Conventional classrooms are turning into a creative and collaborative classroom. Though collaborative learning practices have proved to be effective, but, still it faces some challenges which cannot be unseen. Some of them are mentioned below:

Since the given tasks are done in groups, it becomes hard for the teachers to assess or evaluate the individual contribution made by the students. Initially, it can be challenging to differentiate between what a single student has grasped or contributed and what resulted from group collaboration. Group grades can obscure significant differences in learning, and determining individual contributions can be difficult (Eberly Center, Carnegie Mellon University). Certain students might get credits for the hard work of their classmates, making little contribution yet still gaining from the team's achievements. Conventional assessment approaches typically focus on individual achievement, complicating the creation of rubrics or observation tools that accurately reflect each student's process, effort, and distinct contributions in a collaborative setting. This may cause frustration for students who believe their personal effort goes unacknowledged, or it might result in a lack of responsibility for those who engage less.

3.2 Unequal Participation

Certain students often dominate class discussion and projects in groups, while other students might be submissive. This can lead to unequal participation, with individuals doing most of the work while others contribute minimally, which would be bad for their own education and for the overall success of the group project (Fayombo& Olubela, 2018). This issue is often exacerbated by "free riding" or "social loafing," where some students exert less effort in a group setting (Macfarlane, 2016, as cited in Advance HE).

3.3 Resistance to Change

Since they are accustomed to more conventional, teacher-dominated teaching methods, teachers and students alike might be slow to adopt collaborative learning. This resistance often stems from hidden forces like assumptions, fears, and unexamined beliefs about teaching practices and control in the classroom (Tucker, 2025). While teachers might struggle to shift from the didactic role to the facilitator's role, requiring new lesson plan procedures and classroom management strategies, students might prefer working independently or feel uncomfortable with more interaction with peers.

3.4 Language Barriers within Groups

While collaborative learning ultimately aims at enhancing English language skills, students often come from diverse linguistic backgrounds in a multicultural country like India. Students are likely to use their native languages (L1) within groups even in ESL classrooms to communicate more comfortably, especially when they are struggling. This may sometimes restrict their exposure to and practice in English (L2) (Verma & Kumari, 2018). To encourage frequent use of English, the teachers need to plan their activities very carefully.

3.5 Classroom Management and Noise Levels

Compared to the traditional classroom, collaborative learning environments are generally noisier and more dynamic. Teaching large classes can be particularly challenging, requiring significant effort from the teacher to manage student needs amidst high noise levels (Santhanam, n.d.). It can be extremely hard on teachers to supervise a number of groups simultaneously, keep the students on task, and maintain a positive learning atmosphere, particularly in Indian schools where enormous class sizes are prevalent.

4. Targeted Recommendations for Educational Reform

To overcome these challenges and maximize the impact of collaborative learning, institutions and ESL instructors should implement the following targeted strategies:

4.1 Utilizing Split Hybrid Assessment Rubrics

To solve evaluation ambiguity and eliminate free-riding, grading scales should be broken into two distinct parts:

Group Score (50%): Evaluates the collective final product, presentation quality, and structural layout.

Individual Score (50%): Determined using short individual quizzes on the material, mandatory reflection journals, and confidential peer evaluations where team members grade each other's actual contributions.

4.2 Explicit Role Assignment and Rotation

To prevent dominant students from taking over and to encourage submissive learners, instructors should assign clear, rotating roles within each team:

The Coordinator: Keeps the team on schedule and ensures everyone speaks.

The Recorder: Documents the brainstormed points and drafts the ideas.

The Language Liaison: Ensures that all verbal brainstorming remains in the target language (English).

The Spokesperson: Delivers the team's final presentation to the instructor and class.

4.3 Providing Conversational English Scaffolding

To reduce L1 reliance without creating extra anxiety, teachers should provide groups with "conversation starter sheets." Giving students access to simple transition phrases—such as "I understand your point, but let's consider..." or "To add to what you said..."—gives them the immediate linguistic tools needed to keep their discussions in English.

4.4 Establishing Peer Negotiation Protocols

Educators must explicitly teach conflict resolution models before launching group projects. Introducing simple rules—like a "Two-Minute Rule," where disagreeing students get one minute of uninterrupted time each to explain their perspective before the group votes—directly addresses the fear of disagreement highlighted in the survey data.

Conclusion

Collaborative learning offers a valuable path forward for updating modern Indian ESL classrooms. By shifting the focus from passive rote learning to active peer negotiation, it directly boosts communicative confidence, develops interpersonal empathy, and mirrors professional realities. While challenges like large class management, L1 reliance, and unequal participation are common, they can be managed effectively through structured role assignment, targeted hybrid assessments, and proactive facilitation strategies. Ultimately, embracing

collaborative frameworks changes the role of the ESL classroom from a space of syllabus fulfillment to an active environment for real-world language acquisition.

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The Confidence Club: Exploring Podcast-Mediated Language Learning for Confidence Building and Societal Awareness

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Abstract

In today's rapidly changing landscape, proper communication is key – particularly in English. To improve speaking skills, we published a podcast series titled “The Confidence Club” to build confidence among non-native speakers when it comes to current real-world scenarios (Peng et al., 2025; Syafei et al., 2024). The podcast series was developed to focus on vocabulary building, practicing pronunciation, and grammar tips (Suseno et al., 2024). It consists of eight episodes– themes ranging from AI influence to Societal expectations. It is aimed at people who fear to converse boldly in a new and unfamiliar language due to the lack of fluency and the ones who fail to interact in conversations due to their unfamiliarity in the topic (Peng et al., 2025). The findings indicated that by publishing this podcast, listeners showed improvement in vocabulary usage, pronunciation clarity, and confidence while simultaneously gaining knowledge on socially relevant topics (Syafei et al., 2024). Further, AI enhances research writing by helping discover precise vocabulary and understanding of accurate word usage in the right context (Zhang, 2025; Xiaofan, 2025). Through consistent learning it becomes easy for students to hone their listening skills and speaking skills (Suseno et al., 2024). This project shows that language learning can be coupled with social awareness. It promotes cognitive growth while strengthening vocabulary and proficiency (Artificial Intelligence for English Learning, 2024).

Introduction

In today's globalized and digitally connected world, effective communication in English has become an important skill for academic success, career growth, and social networking (Crystal, 2003; Graddol, 2006). English functions as a communication medium across industries, research, education, and relations (Crystal, 2003). However, for most non-native speakers, especially students in developing conditions, spoken English remains a great challenge (Horwitz et al., 1986; Woodrow, 2006). Despite years of academic learning focused only on grammar and writing, learners often struggle with pronunciation, confidence, and impromptu conversations due to lack of practice and confidence (Richards, 2006; Brown, 2007).

Traditional classroom teaching tends to focus on exam-oriented learning rather than communicative excellence or awareness on general knowledge and starting up a conversation with their peers (Littlewood, 2007). As a result, learners may possess theoretical knowledge of vocabulary and grammar but lack the confidence to express themselves effectively in formal settings such as interviews, presentations, group projects, or formal interactions (Canale & Swain, 1980). This gap between knowledge and implementation shows the need for a novel, accessible, and learner-centric approach to language development (Nunan, 2004).

With the rapid growth of digital media, podcasts have made an appearance as a powerful educational tool (Godwin-Jones, 2005). Podcasts act as flexible, cost

effective and easily accessible content for language learning and skill development (Stanley, 2006). Unlike regular classroom teaching, podcast-based learning allows learners to mingle with real conversations, varied accents, contextual vocabulary, and communication at their own pace (Hasan & Hoon, 2013). Research indicates that audio-based learning can improve and enhance listening comprehension, pronunciation awareness, and learner independence (Vandergrift, 2007).

In response to these challenges and opportunities, the podcast “The Confidence Club”, a series of eight episodes, was developed as a solution aimed at improving spoken English confidence among students and non-native speakers alike. The series focuses on vocabulary building, conversational practice, and societal awareness to reduce anxiety during real-world communication (Horwitz et al., 1986). This paper explores the conceptualization, development process, implementation, and potential impact of the podcast as a tool for enhancing communicative strength using AI to find new vocabulary, meaning and the usage of those words in daily life (Godwin-Jones, 2018). By combining digital media with language learning, the study strives to contribute to new and exciting models of technology-integrated language learning.

Literature Review

1. English Communication and its importance

Research studies have observed that language learning is most effective when it is practiced in daily conversations rather than in a classroom setting (Richards & Rodgers, 2014). Traditional methods of teaching focus on reading and writing skills while often skipping speaking skills. Research indicates anxiety is experienced by learners when they are in a conversational context as they fear making mistakes (Horwitz, Horwitz, & Cope, 1986). Therefore, researchers and experts stress the need for an interactive, supportive, and comfortable environment for non-native speakers to learn and grow (Young, 1991). To address these challenges, innovative approaches such as podcasts, digital media, and language learning platforms are being explored to improve the learners’ confidence and fluency in different languages (Godwin-Jones, 2018).

2. Podcasts as a Tool for Language Learning

With advancements in digital technologies, podcasts have seen a surge in trend for not just learning new information but also learning new languages (McGarr, 2009). Podcasts provide access to authentic conversations related to current world scenarios allowing them to interact and build confidence in a flexible format. Unlike classroom-based lectures, podcasts allow learners to learn at their own pace and repeat the video to build a strong foundation on the language they intend to learn (Stanley, 2006). Several studies highlight the importance of podcasts in

language learning, especially in listening comprehension, pronunciation and vocabulary improvement (Hasan & Hoon, 2013; Abdous, Camarena, & Facer, 2009). Since podcasts use conversational language, learners are able to grasp accents, context, and natural speech patterns. In addition to this, when students create or participate in podcasts creation, they are exposed to script writing, practicing speaking and voice modulation (Lee, McLoughlin, & Chan, 2008). The interactive process of podcast making reduces anxiety and stress related to communication. Educational research suggests that learner-centric content improves engagement and motivation in language learning environments (Godwin-Jones, 2018). This format of podcast-based learning also enables viewers to use the vocabulary learnt in the video in daily contextual conversations (Nation, 2001).

3. Role of Artificial Intelligence in Language Learning

By providing personalized and interactive learning experiences, Artificial Intelligence (AI) has transformed the way we learn languages (Luckin et al., 2016). AI powered tools are able to assist learners in improving pronunciation, vocabulary and proficiency through automated feedback, chatbots and fault recognition systems, facilitating proper language learning (Chen, Chen, & Lin, 2020). These learning platforms offer AI based alternatives to match the learners' pace and level. It is also used to generate content related to language learning by researchers to refine, find, organize, and research content (Holmes, Bialik, & Fadel, 2019). AI can be used to simplify content to make it easy and understandable for viewers and to create a structured script. It is however important to note that AI can also make mistakes and interpret wrong information from illegitimate sources online. So, it is key to check the legitimacy of the information provided by AI. Hence, researchers state that AI cannot be used as a replacement for human interaction (Luckin et al., 2016). Language learning only proves effective with active communication and practice.

4. Research Gap and Contribution of the Study

Even though previous research exists on the effectiveness of podcasts in improving language learning, only limited studies focus on podcasts for students by students, intended to improve not just communication but also confidence while simultaneously learning current on trend scenarios (Lee et al., 2008; McGarr, 2009). Furthermore, the use of Artificial Intelligence in education has been widely explored, fewer studies examine how AI-aided tools can support the development of educational content particularly, podcasts designed for communication practice (Holmes et al., 2019; Chen et al., 2020).

To address this gap, this study introduces “The Confidence Club,” a podcast series uploaded on YouTube, to help non-native English speakers improve their

speaking and confidence through discussions on trending and current scenario-based topics. The project unites conversational learning with AI-assisted content development to create fun-filled podcast episodes that encourage vocabulary improvement, pronunciation practice, and assists daily communication.

By combining podcast-based learning with AI-supported content development, this research study aims to explore a practical and easy to access approach to improving spoken English among learners, mainly college students.

Research Objectives

The main objective of this project is to release a podcast series titled “The Confidence Club” that supports non-native English speakers in enriching their vocabulary and gaining knowledge about current-day topics (Nation, 2001; Syafei, Rasyid, & Anis, 2024). It aids in improving their pronunciation and expression through discussions that are relevant to their lives (Stanley, 2006; Hasan & Hoon, 2013). The podcast is also expected to assist learners in sharpening their listening skills and developing awareness about social and self-related topics (Vandergrift, 2007; Suseno et al., 2024). Moreover the project is expected to investigate how podcast learning can help overcome hesitation and develop confidence among those who find it difficult to take part in discussions due to their fluency level or unfamiliarity of the discussion topic (Horwitz, Horwitz, & Cope, 1986; Woodrow, 2006; Peng, Akhter, & Hashemifardnia, 2025).

Methodology

This study addresses a qualitative and descriptive approach of uploading a podcast series, helping to improve English communication skills, fluency and confidence aimed at non-native speakers and young freshers (Brown, 2007; Richards, 2006). The research focuses on the development and deployment of an educational podcast titled “The Confidence Club” (Peng, Akhter, & Hashemifardnia, 2025; Syafei, Rasyid, & Anis, 2024).

1. Podcast Design and Development

A podcast series consisting of eight episodes was designed to support our objectives (Littlewood, 2007; Nunan, 2004). Each episode uploaded to Social Media platform YouTube, carried a specific theme related to day-to-day situations and contemporary topics, such as artificial intelligence, societal expectations, communication skills, and personal development (Crystal, 2003; Graddol, 2006).

The structure of each episode included:

- Discussion of the contemporary topic using simple conversational language and pronunciation guidance (Stanley, 2006; Hasan & Hoon, 2013).

- Vocabulary section at the end where new words used in the respective episode were explained along with their synonyms, usage, and meanings (Nation, 2001).

This structure was intended to make learning interactive and practical (Godwin-Jones, 2018; McGarr, 2009).

2. Content Preparation

The Scripts were prepared by referring relevant learning resources, dictionaries, grammar references and it was enhanced with the help of AI tools and software such as ChatGPT (Xiaofan, 2025; Zhang, 2025). The Scripts were prepared in such a way that they ensure the use of simple and clear vocabulary (Brown, 2007).

Inclusion of commonly used vocabulary ensures that the listeners don't find it difficult to grasp the information while listening to the podcast series (Nation, 2001). Contextual understanding was provided for new vocabulary and was gradually introduced for better understanding by the listeners (Artificial Intelligence for English Learning: Enhancing Vocabulary Acquisition, 2024).

3. Target Audience

The podcast was mainly designed for non-native students and learners who experience hesitation and lack confidence when communicating their ideas in public or in academic settings due to the unfamiliarity they experience with English being a foreign language (Horwitz, Horwitz, & Cope, 1986; Woodrow, 2006). Due to this, they may face difficulties during project presentations, internships, and further academic activities (Canale & Swain, 1980; Richards, 2006).

4. Podcast Production

The episodes were recorded using basic audio recording tools and edited using editing software such as CapCut to provide clear audio quality and listener engagement was ensured (Stanley, 2006; Hasan & Hoon, 2013). The final recordings were formulated to maintain a conversational tone, making the podcast relatable and more accessible for the listeners to learn with the flow (Godwin-Jones, 2005). The final videos were uploaded onto YouTube, making it easier to reach the targeted audience (Godwin-Jones, 2018; McGarr, 2009).

5. The end vocabulary session

At the end of each episode, a vocabulary segment was included. In this section: Important / new words that were used in the episode were highlighted at the end. The highlighted new words are provided along with synonyms and meanings so that learners can learn new words and their usage in daily conversations (Nation, 2001). Then, simple and easy sentences were used to explain the usage of the new words (Vandergrift, 2007; Hasan & Hoon, 2013).

Results and Discussion

The podcast series 'The Confidence Club' generated mixed reviews from listeners with most of them being positive. The listeners of the podcast note the importance of the vocabulary section of the podcast in helping improve their pronunciation and clarity. They also highlight the help of the podcasts in boosting confidence through the discussion of real-world topics in an easy-to-understand manner. It helped them gain knowledge on societal issues and their impact and the steps they can take to reduce the negative impact and create a positive change. It also helped them gain insights on contemporary topics.

Audience responses were collected through google forms posted in the description of the respective episode. To check if the podcast has been able to reach the targeted audience, we went through the likes, comments, and other information such as age and country of origin through YouTube Studio. The positive comments also included the need for digitalized language learning platforms such as 'The Confidence Club' to build confidence among non-native speakers.

Some listener feedback indicated that the range of topics that were covered was limited and that each topic was not explored in greater depth but just superficially. Some had mentioned that the eight minutes of each episode were not fully utilized and could have included more pointers for vocabulary development. This shows that the podcast is lacking in some ways and needs improvement. When the duration of the episodes is increased, more information can be discussed, increasing the knowledge obtained in the video, and further enhancing vocabulary exposure, and providing learners with more diverse conversational topics.

Overall, the findings suggest that podcast-based learning encourages language development, social awareness, and confidence in conversations. While the limited number of episodes didn't allow the exploration of other key themes, the series still showcased the use of podcasts as an easily accessible and engaging way for English language learning.

Conclusion

Our study explained the outcome of using podcast-based learning as an approach to learn the English language for non-native speakers and young freshers. Our podcast series is named "The Confidence Club". It contains eight episodes and each episode could run for eight minutes. It was designed to create an easily accessible and user-friendly platform that helps learners improve their public speaking confidence, develop vocabulary, and enhance their overall communication skills.

The podcast is about discussions on real-world topics that fit the modern society, pronunciation guidance with simple explanations and at the end of every

episode a vocabulary section is included that shares the synonyms, meanings and usage of new words that were used in the podcast, providing listeners with practical exposure to commonly used English expressions. This podcast idea encouraged learners to become more familiar with everyday language usage while also expanding their vocabulary in a meaningful context.

The overall review says that podcast-based learning offers a convenient, cost-effective, and learner-friendly method for improving language skills.

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Career Edge

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Web-Based Resume and Interview Preparation Portal for Engineering Students

1. Introduction

In the contemporary competitive employment market, engineering students not only need to be technically proficient, but they must also be able to communicate and display professionalism as required by the job market. Recruitment is often carried out through formal processes that involve resume tests, technical interviews, HR interviews, and formal communication through email messages. However, students often face difficulties in writing formal resumes, answering questions confidently, and writing formal email messages for the purpose of job applications.

One of the biggest challenges that the students face during the course of the placement is the making of an efficient resume. A resume is the first impression that is presented by the candidate to the recruiter. A badly presented resume that lacks information may not be able to pass the first stage of the screening process. In the modern world, many organizations make use of Applicant Tracking Systems (ATS) that can filter the resume and recruit the best candidate based on the information provided in the resume. The resume must be ATS friendly; otherwise, the candidate may be rejected despite the possession of good qualifications.

In order to overcome these challenges, this project aims at developing a “Web-Based Resume and Interview Preparation Portal” specifically for engineering students. The portal will offer students various facilities through which they can enhance their placement readiness.

In addition, this project will incorporate “Artificial Intelligence (AI)” in such a way that it helps students create a well-structured resume content through AI-based suggestions. By doing so, students can develop a well-written resume in a format that meets the standards set by “ATS.”

The main purpose behind developing this project is to make it easier for students to create a resume and enhance their confidence through the help of this portal.

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Overall, the proposed web portal acts as a comprehensive platform that supports engineering students in preparing for placements and improving their professional communication skills. Overall, the proposed web portal acts as a comprehensive platform that supports engineering students in preparing for placements and improving their professional communication skills.

2. Literature Review

Several studies have emphasized the significance of digital tools and online platforms in the development of students' employability skills and career readiness. In the present digital era, with the increasing rate of technology and online recruitment tools, many educational institutions and organizations are using digital tools to assist students in preparing for job opportunities.

A study conducted by Smith (2020) states, "Resume builders are tools that assist job seekers in building well-structured resumes using professional standards and formats. These tools assist job seekers in organizing their educational qualifications, skills, achievements, and work experience in a well-structured manner." Resumes in a structured format are more likely to get selected in the recruitment process.

Another study conducted by Johnson and Lee (2021) discussed the importance of Applicant Tracking Systems (ATS) in the recruitment process. According to the study, more than 70% of large companies utilize ATS software to

screen resumes before they are reviewed by human beings in the recruitment process. Applicant Tracking Systems analyze the content of the resume and determine whether it is ATS friendly or not.

In the present competitive job market, engineering students are facing difficulties in presenting their skills, academic work, projects, and knowledge through their resumes. Research literature also reveals that graduates face issues in presenting their educational and technical experiences in a manner that meets professional requirements. Conventional resume formats are found to be deficient in providing sufficient flexibility to meet the requirements of engineering positions, which may result in job or internship opportunities being missed by applicants. Therefore, it is suggested by educational institutions that technology-based tools are used by students to create their resumes.

Literature survey reveals that recent technology-based intelligent and interactive tools for creating resumes have been found to significantly increase the job application success rate of students by assisting in simplifying complex writing tasks. Moreover, these tools provide context-specific suggestions for creating resumes that meet job requirements and increase their visibility in applicant tracking systems.

CareerEdge is built upon this premise of providing a technology-based tool for creating resumes that are highly effective in meeting the requirements of engineering students in presenting their experiences in a manner that meets professional requirements.

Artificial Intelligence has also contributed to the career development platforms. According to Brown (2022), Artificial Intelligence helps in creating resumes based on the input received from users. This helps in creating the most suitable content required in a resume. This, in turn, helps users create resumes according to the requirements of the industry.

Platforms related to interview preparation are also gaining popularity in recent times. According to Garcia (2021), online platforms related to interview preparation allow students to practice various interview questions related to HR as well as technical roles. This helps students understand the importance of presenting themselves as per the requirements of the interviewer.

In a similar context, a study carried out by Kumar and Patel (2022) highlights the importance of proper communication skills while preparing a career. Many students are not able to write proper emails related to career applications due to a lack of proper knowledge related to proper email formats.

Though various career preparation platforms are available, many of them are costly as well as complex to use. Thus, the idea of developing a 'Web-Based Resume and Interview Preparation Portal' exclusively for the students of engineering can be an effective and cost-saving measure. The proposed system aims at providing the

students with a tool for generating resumes and interview preparation in the form of email templates.

3. Research Objectives

Research objectives:

The main goal of this research is to create and design a web-based platform that assists engineering students in enhancing their placement preparedness and professional communication abilities.

The objectives of this study are:

- To create a web-based platform that assists engineering students in their placement preparedness.
- To create an automated ATS-friendly resume creator that assists engineering students in creating professional resumes.
- To provide engineering students with commonly used HR and technical interview questions to assist in their interview preparation.
- To provide professional email templates to assist engineering students in writing professional emails for job applications and other placement requirements.
- To incorporate Artificial Intelligence in assisting engineering students in creating optimized content for their resumes.
- To increase engineering students' confidence and employability skills by providing a user-friendly platform.
- To assist engineering students in their placement preparedness by providing a web-based platform that integrates resume creation, interview questions, and email writing tools in one website.

Through these objectives, the research aims to create a useful digital platform that supports students during their job search process.

4. Methodology

The development process for the Web-Based Resume and Interview Preparation Portal was systematic, involving problem analysis, system design, development, and testing.

Problem Analysis:

The general problems faced by engineering students in their placement process were identified in the initial stage. Many engineering students find it difficult to prepare their resumes, answer interview questions confidently, and write emails to the recruiter in a professional manner.

System Design:

The system was designed based on the problems faced by the students, and the system has three main modules:

Resume Builder Module

This module provides the option for users to insert their details, educational qualifications, skills, projects, and achievements, and the system will be able to arrange them in a proper resume format according to the ATS guidelines.

Interview Preparation Module:

This module contains some common HR and technical interview questions that can be asked in the HR and technical fields. Students can practice answering these questions and improve their communication skills.

Email Template Module:

This module contains email templates that can be sent to the recruiter for job applications, internships, and other professional communication.

System Development:

The web portal has been developed using the latest technologies in the field of web development, including:

HTML is used to design the structure of the web pages.

CSS is used to design the user interface.

JavaScript and React technologies are used to improve the user experience.

Artificial Intelligence technologies have been used in the resume builder module.

Testing and Evaluation:

The system has been tested and evaluated to check its proper functionality and usability. The testing involves the following:

The resume generation process has been checked.

The accuracy of the interview questions has been checked.

The email templates have been checked.

User feedback has also been taken from the students to evaluate the usability and effectiveness of the system. The feedback has also been used to improve the usability and user experience of the system slightly.

5. Results and Discussion

The developed Web-Based Resume and Interview Preparation Portal showed several positive aspects of the improvement of students' placement preparation.

The automated resume builder was helpful to students, as they could create a professional resume in a short period of time. Many students found it easier to arrange information regarding their academic information, skills, and achievements with the help of this automated resume builder.

Students could practice common HR interview questions such as “Tell me about yourself?”, “What are your strengths and weaknesses?”, “Why should we hire you?” with the help of the interview preparation module of the system. Students were able to improve their communication skills with the help of this module, as they could practice the interview questions before facing a real-life interview.

The email template module was also helpful to students, as they could write a professional email regarding a job application or an internship application without facing any errors in the email.

The usage of Artificial Intelligence was beneficial to the students, as the AI suggestions helped students create a better description of their skills, projects, and achievements, which improved the readability of the resumes created with the help of this automated resume builder.

Overall, the portal has streamlined the preparation for the placement process as it has brought together several tools in a single platform. It has helped students save time and avoid confusion and focus on improving their professional skills.

CareerEdge enables students in the field of engineering to develop well-structured resumes, thus improving employability and the number of interviews they are offered, as well as improving the way they present themselves and their skills and projects, bridging the gap between the theoretical and the real world effectively.

6. Conclusion

The Web-Based Resume and Interview Preparation Portal is a significant tool for improving the placement preparedness of engineering students. The tool offers a platform for students to create their resumes and prepare for interviews in an efficient manner. The integration of Artificial Intelligence in the system helps students create their resumes in a structured manner, as expected in today’s job market. Additionally, the system helps students prepare for interviews and create professional emails.

The CareerEdge app is a smart, personal, and efficient tool for engineering students to create their professional resumes. The app helps students create their resumes in an efficient manner using the power of Artificial Intelligence and industry-specific templates. The app is not only efficient in creating a resume for students but also helps students create a resume that showcases their skills and achievements in the field of engineering. The app helps bridge the gap between

academic and professional requirements for students and helps them confidently enter the job market with a resume that reflects their true potential as engineers.

The system helps bridge the gap between what is learned in school and what is expected in the industry through the provision of tools that can assist students in the job search process. Overall, the proposed system can help students prepare better for their placement and can give them a higher chance of success in the job search process. CareerEdge helps students in the field of engineering create professional and industry-ready resumes in an efficient manner.

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Beyond Academics: Emotional Reality

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Abstract

The first year of engineering education is frequently characterized by intense academic pressure, competitive environments, and a strong emphasis on grade performance. However, it also represents a critical transition period in which students develop new academic habits, social networks, and learning strategies. This paper provides an analytical overview of the contemporary engineering education landscape, with particular attention to the experiences of first-year students in higher education institutions. Drawing on national higher-education datasets such as the All India Survey on Higher Education (AISHE) and the National Institutional Ranking Framework (NIRF), as well as existing scholarly literature on student well-being, the study examines key challenges including academic workload, stress, and the perceived gap between theoretical instruction and industry expectations. The paper also presents a synthesized survey-based snapshot illustrating student perceptions of mental well-being and confidence in future employability. Based on these insights, the study proposes practical and scalable institutional interventions, including structured peer mentoring systems, early exposure to industry-integrated learning opportunities, and the incorporation of emotional intelligence training within the first-year curriculum. These measures aim to support student resilience, enhance engagement, and better align engineering education with evolving professional demands.

Introduction

In India, engineering continues to be one of the most popular choices for students after completing school. Every year, a large number of students enroll in engineering colleges that belong to public universities, private institutions, and deemed universities. For many families, getting admission into an engineering program is not only about education but also about pride, social recognition, and the hope of a stable career in the future.

However, the transition from school to the first year of engineering college can be challenging for many students. The academic workload increases suddenly,

most subjects are taught in technical English, and students must adjust to a completely new environment with unfamiliar people and expectations. These changes can make the first year feel stressful and overwhelming for many students.

Recent research on engineering students in India highlights growing concerns about stress, lack of motivation, and mental health struggles, particularly in colleges where academic competition is very high. Studies suggest that these pressures often come from multiple sources such as parental expectations, the intense coaching culture before college, constant comparison with peers, and the strong focus placed on academic performance.

Despite these challenges, the first year of engineering is not only about difficulties. It is also a time when students build new friendships, experience hostel life, interact with people from different backgrounds, and slowly discover their own learning styles. With the right guidance, support systems, and study strategies, many students realize that they are capable of handling complex subjects and academic demands.

By combining research findings, policy perspectives, and real student experiences, this paper aims to explore both the challenges and the positive aspects of the first-year engineering journey in India. It highlights the hidden pressures students face while also recognizing the resilience and growth that often emerge during this important phase of their academic life.

The First Year Transition in Engineering Education

The shift from school to an engineering college is an important stage in a young person's life. It usually happens during late adolescence or early adulthood, a period when students are already going through many personal and social changes. In school, life is often more structured. Teachers closely monitor students, class sizes are usually smaller, and parents can easily communicate with teachers or school authorities. In contrast, engineering colleges—especially large institutions—expect students to be more independent. Students must manage their own schedules, complete assignments on time, and take the initiative to ask for help when they need it.

Because of this sudden change, many students feel as if they are starting from the beginning again. Even those who performed well in school or scored high marks in competitive entrance exams may struggle during the first few months. College classrooms can feel more impersonal, with large lecture halls filled with hundreds of students. In such environments, it becomes easier to stay silent about confusion and harder to ask questions or admit that something is difficult. At the same time, the shift to technical English, complex mathematics, and laboratory-based learning can make students doubt their abilities, even though the real challenge is often just adjusting to a new system and learning effective study methods.

For many first-year students, college is also the first time they live away from home for a long period, especially if they stay in hostels. Hostel life can be both exciting and challenging. Students make new friends, share meals, learn different languages, and spend long nights talking about life and studies. However, it can also bring feelings of homesickness, changes in sleep routines, and exposure to new social environments that may feel unfamiliar at first. Together, these academic and personal adjustments create the background for many of the emotional and psychological experiences that first-year engineering students face.

Current landscapes of Engineering education in India

India's higher education system has grown rapidly over the past few decades, and engineering remains one of the largest areas of study within technical and professional education. According to reports from the All India Survey on Higher Education (AISHE), engineering programs account for a large share of student enrolment across the country. While prestigious institutions such as the Indian Institutes of Technology (IITs) and the National Institutes of Technology (NITs) often receive the most public attention, the majority of engineering students actually study in state universities and private colleges. These institutions differ widely in terms of infrastructure, faculty availability, research opportunities, and connections with industry.

To evaluate and compare higher education institutions, the Government of India introduced the National Institutional Ranking Framework (NIRF) through the Ministry of Education. This ranking system assesses engineering colleges based on several factors, including teaching and learning resources, research output, graduation outcomes, outreach activities, and overall reputation. Institutions that rank highly often show strong placement records and a large number of students pursuing higher studies. As a result, success in engineering education is frequently measured through indicators such as job placements, salary packages, and career progression.

This environment also influences the expectations of many first-year engineering students. Even before they fully adjust to college life, some students become highly focused on maintaining a high CGPA, learning programming languages, or securing internships. While these goals can motivate students, they can also create pressure at a very early stage of their academic journey.

At the same time, discussions about student well-being have become increasingly important. Studies and reports on student mental health in India suggest that many students experience stress, anxiety, or depressive feelings during their academic life. Common causes include examination pressure, high expectations from family members, and the challenge of adapting to college. In engineering education especially, research has highlighted concerns about stress and burnout,

particularly in institutions where competition and academic demands are intense. These issues have drawn attention to the need for stronger support systems that help students manage both academic challenges and personal well-being.

Academic pressure and Student well-being

At first glance, the life of a first-year engineering student may appear lively and exciting. Social media is filled with group photos from fresher's events, snapshots from laboratories, and moments shared in college cafeterias. However, behind these cheerful images, many students silently struggle with stress and uncertainty. Some may laugh with their classmates during practical sessions but later return to their hostel rooms feeling tired, anxious, or unsure about their abilities. This difference between what students show to others and what they actually feel inside is quite common. Often, students assume that everyone else is coping well, even though many of their peers may be facing similar challenges privately.

Academic pressure also begins very early in the semester. Students soon realize that their grades, rankings, and CGPA could influence future opportunities such as internships, higher education, and placement prospects. Because of this, many students feel the need to perform well from the very beginning. Parents may frequently ask about test results or academic progress, usually out of concern and support, but sometimes this can unintentionally increase the pressure students feel. Research on engineering students in India has often pointed out that academic stress, fear of failure, and the worry of disappointing family members can strongly affect students' emotional well-being.

Another factor that increases stress is the culture of constant comparison. Social media platforms often show friends from other colleges sharing achievements such as certificates, hackathon victories, or internship offers. Within the campus itself, seniors' posts about prestigious internships or successful projects can set high expectations for younger students. For first-year students who are still adjusting to college life, these comparisons can create the feeling that they are falling behind. Studies on engineering students have found that frequent comparison with others – especially when combined with family expectations and competitive academic environments – can negatively impact mental health.

Gap between Academic Curriculum and Industry Expectations:

Many students choose engineering with dreams of creating new technologies, solving real-world problems, or securing well-paid careers. However, once they enter college, they often realize that the academic curriculum is still heavily focused on theoretical concepts, written examinations, and laboratory exercises that may not always reflect current industry practices. As a result, students sometimes feel that

what they are learning in the classroom is not fully preparing them for real engineering work.

Employers and education experts frequently discuss this issue as a skills gap. In many cases, graduates understand formulas, definitions, and theoretical principles, but they may struggle when asked to apply that knowledge to practical situations, solve open-ended problems, or work effectively in teams across different fields. Because modern industries value creativity, communication, and problem-solving skills, this gap between theory and practice has become an important concern in engineering education.

Initiatives such as the National Institutional Ranking Framework (NIRF) introduced by the Ministry of Education encourage colleges to improve industry connections, support internships, and promote innovation activities. Some institutions have started establishing innovation labs, startup cells, and industry-linked projects to help students gain practical exposure. However, for many first-year students, daily academic life still revolves around long lectures, limited classroom interaction, and exams that carry significant weight in grading.

This difference between the promise of “industry-ready education” and the reality of classroom learning can create uncertainty among students. Many begin to question whether they are developing the right skills for their future careers. When students cannot clearly see how their coursework connects to the jobs they hope to pursue, their motivation may decrease and their worries about future employability may increase.

The gap between curriculum and industry expectations can also affect students’ well-being in indirect ways. Because they feel the need to build additional skills, many students turn to online courses, coding practice sessions, or external coaching programs outside college hours. While these efforts can be helpful, balancing them with regular coursework, assignments, and personal life can become exhausting. Over time, this constant pressure to “do more” may affect both mental health and physical energy levels, especially during the demanding first year of engineering education.

Student Perception Survey:

This paper combines insights from previous research with a small survey conducted among first-year engineering students. Earlier studies on engineering education in India show that many students experience moderate to high levels of academic stress, even in well-known institutions. Only a small percentage of students report low stress levels, indicating that academic pressure is a common experience.

Our survey results reflect similar patterns. A large number of students reported feeling stressed about exams, assignments, and maintaining a good CGPA.

Many students also shared concerns about future placements and career opportunities. Some participants mentioned that adjusting to college life, managing time, and staying motivated during the first year can be challenging.

Research on student mental health in India also suggests that a considerable number of students face anxiety or emotional pressure due to academic expectations and family hopes. In our survey responses, a few students also expressed feelings of loneliness or hesitation to ask for help from faculty or counsellors.

Overall, both the existing research and the survey responses point toward a similar conclusion: academic competition, parental expectations, and comparison with peers can create significant pressure for first-year engineering students. At the same time, these findings highlight the importance of stronger academic support systems and open conversations about student well-being on campus.

Discussion and Analysis:

The research findings and survey insights together show that the transition into the first year of engineering is not only an academic change but also an emotional and personal adjustment. Students are not just learning subjects like mathematics or programming; they are also learning how to live independently, manage responsibilities, and adapt to a completely new environment. The pressure to perform, constant comparison with peers, and the feeling of needing to appear confident often create hidden stress that many students do not openly discuss.

Several structural factors can make this situation more difficult. Large classrooms, limited mentoring opportunities, and a curriculum that focuses mainly on exams and grades may leave little room for open conversations about challenges or failure. When academic performance becomes closely tied to a student's self-worth, even a small setback like a low mark can feel overwhelming and affect confidence.

However, the findings also suggest that there are opportunities to improve student well-being. Many students report moderate rather than extreme stress, which means that proper support systems can make a positive difference. Guidance from mentors, realistic goal-setting, and encouraging students to focus on learning rather than only grades can help them build resilience. Creating an environment where asking for help is accepted and mental health discussions are normal can also help students manage pressure in a healthier way.

Proposed Institutional Interventions:

Educational institutions have an important role in helping first-year students adjust to college life and turning difficult moments into opportunities for growth. One useful step is to organize structured orientation and bridge programs at the beginning of the academic year. These programs can help students develop

academic skills such as note-taking, time management, and basic technical knowledge, while also addressing emotional challenges like homesickness, peer comparison, and building healthy relationships. In addition, peer mentoring programs—where trained senior students guide small groups of first-years—can provide a supportive space where new students feel comfortable asking questions and sharing their concerns.

When students begin to feel overwhelmed, simple motivational messages are often not enough. They need practical support systems. Colleges can provide accessible counselling services, supportive faculty advisors, and clear guidance about what students should do if they experience academic or emotional difficulties. Research on engineering student well-being highlights the importance of identifying stress early and offering timely support rather than waiting until problems become severe. Activities such as reflective writing, group discussions, and personal development workshops can also help students better understand their emotions and view setbacks as opportunities to learn rather than as failures.

Another important step is creating a campus culture where seeking help is seen as normal and healthy. Colleges can collaborate with mental health professionals to provide confidential counselling sessions, awareness programs, and workshops that encourage open conversations about emotional well-being. Faculty members can also be trained to recognize warning signs such as frequent absences, sudden drops in academic performance, or noticeable withdrawal from activities. By responding with understanding rather than judgment, they can guide students toward appropriate support services.

Within the classroom, teachers can adopt teaching practices that reduce fear and encourage learning. For example, low-stakes quizzes, opportunities to revise assignments, and constructive feedback focused on improvement rather than only marks can help students build confidence. Educational research shows that such approaches promote a growth mindset, allowing students to view challenges as part of the learning process instead of as permanent setbacks.

Finally, institutions should aim to develop well-rounded individuals rather than focusing only on high academic scores. Workshops on emotional intelligence, communication skills, digital well-being, and conflict resolution can be included in first-year programs. Student clubs and campus activities can also encourage self-care, resilience, and healthy boundaries. Additionally, introducing industry-related learning experiences early—such as small practical projects, guest lectures from professionals, or career exploration sessions—can help students understand that there are many possible career paths. When academic learning is combined with emotional support and real-world exposure, students are more likely to feel confident about their future and motivated to grow beyond their grades.

Conclusion:

The transition from school to the first year of engineering in India is more than just adjusting to a new campus or a different syllabus. It is a complex period filled with emotional challenges, silent comparisons, and high expectations. At the same time, it is also a phase where students form new friendships, discover their abilities, and gradually learn how to adapt to independence. While academic pressure is a reality, it also creates an opportunity for institutions to rethink how they support both student well-being and career development.

By recognizing the hidden struggles that many first-year students experience and responding with meaningful support systems, engineering colleges can make this transition healthier and more positive. Initiatives such as peer mentoring, accessible counselling services, industry-related learning opportunities, and training in emotional intelligence can help students move beyond simply coping with pressure and instead grow with confidence. When success is defined not only by marks but also by personal development and resilience, the first year of engineering can become a foundation for long-term growth.

For first-year students themselves, it is important to remember that moments of stress, doubt, or exhaustion are a normal part of the learning journey. Many students appear confident on the outside while quietly facing similar struggles. Academic performance is important, but it does not define a person's intelligence, potential, or future.

Students should feel comfortable seeking support—from friends, mentors, teachers, or counsellors—whenever they feel overwhelmed. It is also natural for goals, study habits, and career interests to change over time as students gain new experiences. Engineering education can be demanding, but students are much more than their grades or entrance exam ranks.

Taking time to rest, celebrate small achievements, and maintain supportive relationships can make the journey more meaningful. A single exam, assignment, or difficult semester does not determine a student's entire future. The first year is only the beginning of a larger path of learning and personal growth, and every student is still discovering who they are capable of becoming.

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Artificial Intelligence as a Learning Companion: Balancing Academic Support and Critical Thinking in Student Writing

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Abstract

Artificial Intelligence is increasingly influencing student learning practices across educational institutions. Many students now rely more on AI-powered tools than on teachers for academic writing and problem-solving tasks. While AI enhances writing efficiency, improves language accuracy, and provides instant academic support, excessive dependence on such tools may negatively affect students' independent thinking and critical reasoning abilities. This paper explores how Artificial Intelligence has evolved into a learning companion in academic writing contexts. Using analytical and critical discussion methods, the study examines both the advantages and potential risks associated with AI usage among students. The findings indicate that although AI improves accessibility and writing quality, overreliance may reduce learners' capacity for original thought and problem-solving. Therefore, a balanced and ethically guided approach is essential to ensure that AI functions as a supportive educational tool rather than a substitute for human cognition and academic integrity.

Keywords: Artificial Intelligence, Student Writing, Academic Integrity, Critical Thinking, Language Learning.

Introduction

Artificial Intelligence (AI) has become one of the most important technological developments of the modern world. In recent years, AI has entered many areas of daily life, including healthcare, business, communication, and education. Among these fields, education has experienced a significant transformation because of AI technologies. AI tools are now widely used by students and teachers to support learning, research, and academic writing.

In the past, students mainly depended on textbooks, teachers, and libraries to complete their academic work. Today, the availability of AI-powered tools has changed the way students gather information and develop their assignments. Tools

such as writing assistants, grammar checkers, and intelligent chatbots can provide suggestions, correct errors, and help students organize their ideas more clearly. Because of these features, AI has become an important learning companion for many students.

However, while AI provides many benefits, it also raises important concerns. Some educators worry that students may depend too much on AI tools and stop thinking independently. If students simply copy answers generated by AI, they may lose the ability to analyze ideas, develop original opinions, and express their thoughts in their own words. Therefore, it is important to find a balance between using AI as a helpful academic tool and maintaining strong critical thinking skills.

This paper discusses the role of AI in student writing, its advantages in academic support, its impact on critical thinking, and the role of educators in guiding students to use AI responsibly. It also highlights the importance of a balanced approach in which technology supports learning without replacing human creativity and independent thinking.

AI in Student Writing and Academic Support:

Artificial Intelligence has significantly improved the way students approach academic writing. Many AI-based tools are designed to assist students during different stages of the writing process, including brainstorming, drafting, editing, and proofreading. These tools help students improve the quality of their work and develop better writing habits.

One of the most common uses of AI in education is grammar and language correction. Many students struggle with grammar, spelling, and sentence structure, especially when writing in a second language. AI writing assistants can automatically detect mistakes and suggest corrections. This helps students learn from their errors and produce clearer and more accurate writing.

Another important advantage of AI tools is their ability to help students organize their ideas. Writing a good academic essay requires clear structure, logical arguments, and proper organization. AI systems can provide suggestions for structuring paragraphs, improving transitions between ideas, and presenting arguments in a more effective way.

AI tools can also assist students in generating ideas. Sometimes students find it difficult to start writing because they are unsure how to begin or what points to include. AI systems can help by suggesting possible topics, questions, or outlines that guide the writing process.

In addition, AI can help students save time when completing their academic work. Instead of spending long hours searching for information or correcting language errors, students can focus more on understanding the topic and improving the quality of their ideas.

AI-powered learning platforms can also provide personalized support. These systems can analyze a student's writing and provide specific feedback based on individual needs. For example, a student who struggles with grammar may receive more language-related suggestions, while another student may receive advice on improving argument development.

Furthermore, AI tools are particularly useful for students learning English as a second language. They help students choose appropriate vocabulary, improve sentence structures, and communicate ideas more clearly. Overall, AI provides valuable support during the academic writing process. However, despite these advantages, it is important to examine how excessive reliance on AI may influence students' critical thinking abilities.

Impact on Critical Thinking:

While AI offers many benefits in academic writing, it also raises concerns about the development of students' critical thinking skills. Critical thinking is an essential ability that allows individuals to analyze information, evaluate different viewpoints, and form independent conclusions.

If students depend too heavily on AI-generated responses, they may reduce their engagement in the learning process. Instead of analyzing sources and developing their own arguments, they might simply accept information provided by AI tools.

Another concern is that AI may encourage copying rather than original thinking. Some students may use AI-generated responses directly in their assignments without fully understanding the content. As a result, the work may appear well written but may not reflect the student's actual knowledge.

Overdependence on AI may also reduce creativity. Creative thinking involves exploring new ideas, asking questions, and expressing unique perspectives. When students rely heavily on AI suggestions, their writing may become similar to others using the same tools, reducing originality.

Academic honesty is another important issue. Some institutions worry that students may misuse AI to generate entire assignments with minimal effort. This practice can undermine the value of genuine learning.

However, AI itself is not necessarily the problem. The key issue lies in how these tools are used. When used responsibly, AI can support the learning process while still allowing students to develop their own ideas and arguments.

Role of Educators in AI-Supported Learning:

Teachers and educators play an essential role in guiding students on how to use AI responsibly and effectively. As AI technologies become more common in education, educators must help students understand both the advantages and

limitations of these tools. One important responsibility is teaching ethical AI use. Students should understand that AI tools are meant to support learning rather than replace personal effort. Educators can emphasize the importance of originality, proper citation, and independent thinking.

Teachers can also design assignments that encourage critical thinking. For example, students may be asked to explain their reasoning, compare viewpoints, or reflect on their own learning experiences. These tasks require deeper engagement with the topic.

Another important role of educators is demonstrating appropriate AI usage. Instead of banning AI completely, teachers can show students how to use it for tasks such as grammar correction, brainstorming ideas, and improving sentence clarity.

Educators can also encourage students to verify information provided by AI tools. Since AI systems may sometimes produce inaccurate information, students should be trained to consult reliable academic sources. Furthermore, discussions about the ethical and social implications of AI can help students become responsible digital citizens.

Towards a Balanced Approach:

The increasing use of AI in education makes it necessary to develop a balanced approach. This approach combines the advantages of technology with essential human skills such as creativity, critical thinking, and independent learning. Students should view AI as a supportive assistant rather than a replacement for their abilities. AI may help with grammar correction, vocabulary suggestions, and writing organization, but the main ideas and arguments should originate from the student. Educational institutions can support this balanced approach by developing clear policies and guidelines for AI use in academic work.

Students also share responsibility in using AI ethically and wisely. By using AI primarily for supportive tasks such as editing and organization, they can improve their work while maintaining intellectual independence. Through responsible use, AI can become a valuable partner in education rather than a threat to academic integrity.

Conclusion

Artificial Intelligence has become an important component of modern education. AI-powered tools provide several advantages for students, including improved grammar correction, clearer organization of ideas, faster access to information, and personalized learning support. However, excessive dependence on AI may weaken important skills such as critical thinking, creativity, and academic integrity. When students rely too heavily on AI-generated content, they may lose opportunities to develop independent reasoning.

Therefore, the goal should not be to eliminate AI from education but to integrate it responsibly. Teachers, students, and educational institutions must collaborate to ensure that AI is used as a supportive learning tool rather than a replacement for human effort. By maintaining a balanced approach, students can benefit from AI technologies while continuing to develop their own creativity, originality, and critical thinking abilities.

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From Silence To Confidence

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Abstract

The paper aims to introduce the development and evaluation of a structured and student-friendly eBook titled “From Silence to Confidence,” which is designed to improve the English communication skills of undergraduate students. In the face of the overwhelming number of language learning materials readily available, it has been observed that students still face difficulty in communicating fluently in English due to psychological barriers such as fear, anxiety, and lack of self-confidence. The eBook has attempted to bridge the gap by using a progressive chapter structure that not only focuses on the theoretical aspect but also includes practical questions, scenarios, and a pre-test and post-test approach. The content has been derived from standard communication books and educational podcasts and has been rewritten to make it student-friendly and unique. Artificial Intelligence tools have also been used to improve grammar and clarity in the content. The outcome has revealed that the students using the eBook have shown significant improvement in terms of fluency, structure, and self-awareness in communication and confidence level.

Introduction

It is arguably the most important skill that one can develop in the modern world. It is a critical component in shaping the success of one's academic and professional life as well as one's personal life. Out of the numerous languages used across the world, it is obvious that English has become the most dominant language in facilitating global communication, cultural exchange, scientific exploration, and commerce. It is not just important; it is rather a necessity that one is able to communicate effectively and fluently in English.

However, the majority of students in the fields of technology and science whose native language is not English and whose means of communication is not English have faced a number of challenges when required to communicate in English, despite the fact that they have acquired a good cognitive knowledge of the language and its grammar and vocabulary usage. This is not a cognitive challenge; it is rather a psychological challenge that has led to the emergence of a vicious circle that has seen the majority of the students fail to communicate confidently and fluently in English. Though there are so many resources available online, such as podcasts, videos, mobile apps, textbooks, and online tutorials, it has been found that

the learner is using all these skills at once without any proper learning pathway and framework to link all these individual skills to the overall communicative competence.

It is in this context that the eBook "From Silence to Confidence" is intended to provide the learner with an appropriate pathway from hesitation to self-confidence by incorporating all the best practices from the existing resources available in the field of communication in an appropriate and student-friendly eBook format.

The content of the eBook is not intended to be read by any expert in the field of linguistics, but it is intended to be read by the average undergraduate student who knows his or her English but is not able to communicate effectively in day-to-day life situations. The eBook is divided into thematic chapters, which are presented in a structured manner. Each chapter is designed in such a way that it builds on the previous one, and the learner does not feel that they are being overwhelmed with information; they get a sense of encouragement and development. The addition of the pre-test and post-test model also helps the learner to measure their own progress and gain motivation and direction.

Literature Review

For years, people have been trying to figure out how to improve their communication skills. Everyone seems to agree on one thing: "Confidence can change everything." Most students are reluctant to because they are scared of making mistakes, they don't know the words they need, and they are nervous around others.

A great many of the top books and resources began to focus on the importance of practicing, following a plan, and taking time to reflect on what is and is not working. Podcasts and technology have expanded the way students can listen to how real people talk and try to understand pronunciation.

Studies continue to demonstrate that structured learning and activities can significantly help students more than simply trying to wing it with whatever resources they can find and using pre- and post-tests to determine what is and is not working for them. Technology is now also able to help students with grammar and word choice, and this makes it easier for students to learn.

Research Objectives:

The objectives of this study are as follows:

- To create a student-friendly eBook that effectively enhances the English communication abilities of undergraduate learners, with special emphasis on active spoken use of the language.

- To create a structured eBook that equips learners with effective techniques for mastering common English conversations, including how to initiate, sustain, and terminate conversations effectively.
- To create an eBook that assists learners in overcoming psychological barriers to effective speech, such as fear, self-doubt, and performance anxiety.
- To create an eBook that integrates knowledge from various credible sources of communication to create a unified, logical, and easily comprehensible eBook that eliminates the need for learners to consult disparate and disjointed literature.
- To create an eBook that effectively assesses learners' improvements in their use of vocabulary, fluency in conversations, and self-confidence through rigorous pre-test and post-test evaluation.
- To create an eBook that increases learners' self-awareness, reduces hesitation in speech, enhances speech structure, and increases learners' ability to engage in effective self-presentation in different settings.

Methodology

The eBook development was carried out through a systematic and multi-stage methodology. It was meant to ensure the accuracy and effectiveness of the eBook as a resourceful tool for the students. It involved the use of a systematic and well-planned approach in the development of the eBook.

Resource Collection

The first phase in the development of the eBook was the collection and examination of the reference materials. This phase involved the use of reference materials such as popular books on communication and mastering the skill of conversation. This phase included books that were written by communication experts and professionals in the English language training industry. This phase also included the use of educational podcasts on spoken English, pronunciation, and fluency in conversation. This phase included the use of online sources that offered information on grammar guides and speaking fluency. The reference materials were examined and evaluated based on their reliability and usability in the development of the eBook before they were used in the study.

Content Development and Rewriting

The second phase in the development of the eBook was the analysis and complete rewriting of the information that was collected in the first phase. This phase was very important because the content in the eBook would not be copied in any way and would be an original scholarly work. This phase was also important because the content would be completely rewritten in such a way that the level and experience of the targeted student population would be taken into account.

Organization and Learning Progression

The chapters in the eBook were organized in such a manner that the content would be presented progressively. The initial chapters would be more focused on the psychological aspects and would encourage the students to understand the communication barriers they face and the role of the mind in the usage of language. The subsequent chapters would be more focused on the skill development of the students, such as the expansion of vocabulary, sentence formation, listening skills, and the usage of language in conversations. The later chapters would be more focused on the advanced communication skills of the students, such as self-presentation, storytelling, persuasion, and communication etiquette in a professional setting.

Assessment Design

A pre-test and post-test design was incorporated into the eBook format. In the pre-test, at the beginning of the eBook, the learner's level of communicative competence is measured across several parameters: the learner's confidence level in speaking, the learner's vocabulary level, the learner's ability to structure a conversation, and the learner's level of anxiety while speaking. In the post-test, at the completion of the main chapters of the eBook, the changes in the above parameters are measured through similar but not identical questions. This allows the learner to visualize the changes in their own level of communicative competence and the educator/facilitator to quantify the effectiveness of the eBook.

AI-Assisted Refinement

Language technology was used in the final stages of content creation to ensure grammatical accuracy and readability. The language technology was used to identify grammatical errors, tone or register inconsistencies, complex sentence structures, and clarity issues that might affect the comprehension of the content by a non-native English-speaking student. The use of language technology in this case is a reflection of how technology is used in creating educational content in general. The eBook is therefore ensured to have a high level of linguistic quality without compromising on the informal student-centered tone intended by the authors.

Results and Discussion

The results obtained through the process of development, piloting, and evaluation of the eBook "From Silence to Confidence" are both encouraging and

instructional. Results are presented in several important aspects: diagnostic results obtained during the pre-test phase, results related to the acquisition of new knowledge during the eBook engagement phase, and improvements measured during the post-test phase.

Pre-Test Findings

Identifying the Baseline -Pre-test results always showed a clear indication that a majority of the participants were of a common profile: they knew English passively, meaning they were able to read and comprehend English texts with a reasonable level of competence, but they were not able to apply this knowledge actively in speaking situations. The most common barriers cited were the inability to construct sentences under pressure, fear of mispronouncing words, a lack of adequate functional vocabulary, and a general feeling of shame or embarrassment at making mistakes in public.

These findings are fully in line with the literature on Foreign Language Anxiety, thus clearly indicating that the eBook's focus on the psychological aspects of speaking was not only theoretically driven but also responded to the practical needs of the target learner group.

First and foremost, the nature of the eBook meant that students were never presented with content beyond their current abilities. This helped alleviate considerable stress and encouraged students to engage more readily with the speaking exercises provided within the eBook.

The real-life examples of conversations provided throughout the eBook chapters also helped students understand the application and usage of the principles learned in a more real and relevant manner. Rather than the usual grammar rules and examples provided in other language-learning resources, the eBook provided students with the opportunity to engage in the pragmatics of language usage in real-life situations such as job interviews, class discussions, and casual conversations. This was found to be particularly beneficial.

Finally, the inclusion of self-reflection exercises in several chapters helped students develop the metacognitive skills necessary for improving communication and language usage. This was found to be a very significant factor in the eBook experience and helped students develop the capacity for critical thinking and self-improvement.

Post-Test Outcomes

Measuring Growth Post-test outcomes indicated a level of growth in various aspects of communicative competence. For instance, students indicated a level of improvement in speaking anxiety reduction, as they felt more comfortable speaking, even though they were not entirely sure of the correct usage of the target language

structures. This, arguably, is the most important outcome, as it indicates a level of growth not only in the students' skills but also in the students' attitude toward speaking.

In terms of students' ability to carry on a conversation, students were able to improve their ability to initiate, carry on, and conclude a conversation, as they were able to articulate their thoughts in a structured, coherent manner. Students were also able to apply the target language vocabulary, as they showed improvement in the application of the target language vocabulary, as learned from the various eBook modules. Students' ability to carry on a conversation regarding self-presentations, a usually neglected area of instruction in traditional English teaching, was also evident, as students showed improvement in this area as they felt more comfortable introducing themselves, as well as expressing their interests and aspirations to new audiences. Significantly, students who had completed the whole eBook and had consistently worked with the activities had shown greater improvements than those who had worked with the eBook in a less consistent manner. This is an important point, highlighting the value of consistency in engagement with the activities, as well as the benefits of the gradual structure of the eBook, whereby those who had worked their way through the chapters had gained the full benefits of the scaffolding process.

Conclusion

This study has proven that a thoughtfully designed eBook can be used as an effective means of facilitating the development of English communication skills in undergraduate students. "From Silence to Confidence" has effectively utilized the insights gained from the study of communication theories, best practices in teaching and learning, and contemporary instructional design principles to produce a resource that not only addresses the linguistic but also the psychological aspects of learning. The eBook's progressive chapter structure, practical conversational content, embedded assessment model, and AI-refined language quality collectively contribute to a learning experience that is accessible, motivating, and measurably effective. Learners who engaged consistently with the material demonstrated improvements in confidence, conversational fluency, vocabulary use, and self-presentation skills — outcomes that align closely with the study's stated objectives.

Perhaps most significantly, the eBook appears to have succeeded in shifting learners' orientation toward English communication, from one characterized by avoidance and anxiety to one marked by curiosity and willingness to practice. This attitudinal shift, while difficult to quantify precisely, represents a foundational change that is likely to enable continued improvement long after the learner has completed the eBook.

Future work could focus on expanding the eBook to include audio and video components, enabling learners to hear model conversations and receive automated pronunciation feedback. A larger-scale empirical study involving a control group and a more extended intervention period would also strengthen the evidence base for the eBook's effectiveness. Additionally, adapting the eBook's content to address the specific communication needs of different professional domains, engineering, healthcare, business, could increase its practical utility and reach.

In conclusion, "From Silence to Confidence" is a valuable addition to the growing array of student-focused language learning materials. In its provision of a systematic, research-based, and psychologically aware model for the development of the English language communication skills, it has the capacity to make a real and significant difference in the lives of the students who use it.

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AI Powered Public Speaking Practice Website

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Abstract

In an era driven by ideas and influence, public speaking has emerged as a critical skill for leadership and impact. Despite its importance, many learners lack access to structured practice environments. This paper proposes a systematic public speaking website, "MY ELOQUENCE", designed to enhance spontaneity, articulation, and audience connection. The website integrates timed speaking exercises, topic randomization techniques, and performance feedback mechanisms. "MY ELOQUENCE" is structured to improve confidence, clarity of thought, leadership presence, and persuasive ability in academic and professional environments. It emphasizes confidence transformation through consistent practice, the development of spontaneous thinking skills, and effective audience engagement strategies. By integrating structured modules, real-time feedback systems, performance tracking tools, and interactive practice environments, the platform bridges the gap between theoretical learning and practical exposure. As digital learning continues to evolve, such scalable and accessible platforms can democratize communication training, empowering students and professionals to become confident, persuasive, and impact-driven speakers in a competitive global landscape.

Introduction

Communication plays a major role in academic and professional life. Students are often required to present seminars, participate in discussions, and explain their ideas clearly. Among different communication skills, public speaking is especially important because it helps individuals share information and express their opinions effectively. Despite its importance, many students feel nervous or hesitant when speaking in front of others.

One of the main reasons for this problem is the lack of regular practice. In many educational settings, students only speak during presentations or specific classroom activities. As a result, they do not get enough opportunities to improve their communication skills.

With the growth of digital technologies and artificial intelligence, it is now possible to create systems that support learning in new ways. AI-based platforms can help evaluate responses, analyze performance, and guide users toward improvement. MY ELOQUENCE is designed with this idea, providing a platform where users can assess their communication ability and practice speaking in a structured way.

Problem Statement

Many students and young professionals face difficulties in improving their public speaking skills. One of the main challenges is the lack of structured environments where individuals can regularly practice speaking. Most learning platforms focus on theoretical knowledge rather than practical speaking activities. Another issue is the absence of proper feedback. Without feedback, learners may not clearly understand their weaknesses in areas such as pronunciation, grammar, or vocabulary usage. As a result, improving communication skills becomes difficult.

Because of these limitations, there is a need for a system that can help users evaluate their speaking ability and provide opportunities for consistent practice. MY ELOQUENCE aims to address this problem by offering an AI-based platform that focuses on communication improvement through assessment and practice.

Proposed System

The proposed system, MY ELOQUENCE, is a web-based platform developed to support communication skill development. The system begins with a diagnostic test that evaluates the user's language ability. This test helps identify the user's current level of communication skills.

The diagnostic assessment mainly evaluates the following aspects:

- Tone and pronunciation
- Vocabulary and grammar
- Quicker response skill and clarity of thought
- Audience engagement and time management

After the diagnostic test is completed, the system analyzes the responses and identifies areas where improvement is needed. Based on the results, users are encouraged to practice speaking activities that help them improve gradually. By repeating these exercises, users can develop better clarity and confidence while speaking.

Architecture

The architecture of MY ELOQUENCE includes several components that work together to support the learning process. The platform is designed as a web-based

system where users can access the diagnostic test and practice modules through an interactive interface.

The system mainly consists of the following modules:

- User interface that allows users to access the platform and interact with the system
- Question generation module that provides diagnostic questions
- Diagnostic evaluation module that analyzes user responses
- Practice module that allows users to perform speaking exercises
- Performance analysis module that tracks user progress

These modules work together to evaluate communication ability and provide a structured environment for speaking practice.

Advantages

MY ELOQUENCE provides several benefits for learners who want to improve their communication skills. The platform allows users to practice speaking in a structured environment without needing a classroom setting. Since the system uses artificial intelligence to analyze responses, it helps users understand their strengths and areas that need improvement. Another advantage is that the platform can be accessed through the web, which means users can practice anytime and from anywhere. This flexibility allows learners to practice regularly and gradually improve their speaking confidence.

Applications

The MY ELOQUENCE platform can be useful in different situations where communication skills are important. Students can use the platform to prepare for seminars, presentations, and academic discussions. It can also help individuals preparing for job interviews where strong communication skills are required. Educational institutions may also use such platforms as part of communication training programs. In addition, professionals who want to improve their presentation skills can use the system as a practice tool.

Conclusion

MY ELOQUENCE provides a practical approach to improving public speaking and communication skills using artificial intelligence. By combining diagnostic evaluation with structured speaking practice, the system helps users understand their weaknesses and work toward improving them. The platform encourages continuous practice, which is essential for developing confidence in speaking. Overall, MY ELOQUENCE aims to support learners in improving their communication abilities in a simple and accessible way.

Future Scope

In the future, MY ELOQUENCE can be improved by adding more advanced features. For example, the system could include real-time speech analysis to evaluate speaking speed, tone, and clarity. Additional features such as emotion detection could help identify the confidence level of the speaker during practice sessions. The platform could also be expanded into a mobile application so that users can practice more conveniently. With further development, MY ELOQUENCE could provide more personalized guidance and advanced analytics to support communication skill development.

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Computational linguistics, corpus linguistics, and NLP - How AI Is Transforming Linguistic Research and Language Understanding

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Abstract

The swift progress of Artificial Intelligence over the past few decades has dramatically changed the domains of Computational linguistic, Corpus linguistics, and Natural Language Processing [NLP]. Historically, research based on corpora concentrated on discovering patterns, frequencies, and structures within extensive text collections. In the present days, the AI has changed a lot about this domains but also it has advanced these domains in various linguistic researches along with data driven algorithms are transforming linguistic research from descriptive studies to interpretations of language recognition. It discusses the transition from fixed corpora to responsive systems capable modeling pragmatics, organization, and cross-linguistic differences. This paper investigates the domains of Computational linguistics, Corpus linguistics and NLP and how far these domains have changed after the arrival of artificial intelligence in the research of linguistic languages. The research also reflects on methodological concerns involving the analysis and interpretation of information driven from people to proceed further with the research.

Keywords: Machine Learning [ML], Artificial Intelligence [AI] in Linguistics Sectors, Computational Algorithms, Natural Language Processing [NLP], Computational Linguistics, Corpus Linguistics

Introduction

Language is one of the most important and complex features of human communication and diversity. Several languages have been nurtured for decades to protect its individuality and its effectiveness among various nations. Over the past few decades AI has played a vital role in building a modernized human society but it has transformed a lot of things around the language barriers. The huge transformations in linguistics with advanced computational research along with the major impact in changing linguistics research and language understanding has made a wider change in the field of linguistic research.

Traditional linguistics research involved a lot of manual data, developing the research and understanding of a language by analysing textual data along with manual scripts available.

At recent times, the manual data scripts are transformed into advanced computational algorithms processed to produce modeling linguistics structures. Natural language processing along with these modernized process techniques gives systems to process, interpret and generate human linguistic language.

In recent years, Artificial intelligence and machine learning along with deep search learning have revolutionized linguistics research and language technologies. At the same time these developments raise important questions and approach a lot of new various fields of data bias interpretation, linguistics theory, interpretability and human expertise in language analysis.

Machine Learning

Machine learning is a subset of artificial intelligence and it focuses on building computational models and systems occurring from the data. Instead of focusing on the computational algorithms it processes by recognising the data fed to it and by processing its patterns. It stays focused on the data input fed to it, pattern recognition and the likely prediction of the outcome of the data. “The future of artificial intelligence is not about man versus machine, but rather man with machine” - Mark Cuban

Processing of Machine Learning [ML]

Machine learning works by the data fed to it and which in turn recognise patterns further processing it into possible outcomes. It goes through three main phases:

1. Data Input - Information feeding to the system (data, text, or images).
2. Recognition of Patterns - The computational program identifies patterns.
3. Prediction - Using the patterns to predict possible outcomes.

Natural Language Processing [NLP]

Natural language processing acts as a bridge between human language communication and computer algorithm processing. It acts as an intermediary by enabling machines to read, write, and understand human communication language. After the beginning of AI it has been widely developed in the field of linguistic research. Think of it as teaching a computational program or system to understand not only content but also intent, sentiment and context.

Core Technologies of NLP

The core technologies that are involved in natural language processing are deep learning along with the following:

1. Rule based strict grammatical systems.
2. Deep learning with several networks to process contextual data.

These are the major core techniques used in the core of natural language processing. The methods of processing natural languages NPL are by breaking the words into minimal tokenized words, processing it further for deep meaning and sentences, tagging the parts of speech of the sentences and determining the tone of the sentence.

Real World Applications

Some real time examples of natural language processing in our daily life are:

Sector	Main Task	Beneficiary
Healthcare	Name Recognition	Patient health record and physicians reports
Finance	Analysis	Faster market finance analysis
Customer Service	Intent Recognition	24/7 automated service along recognised data

Computational Linguistics

Computational linguistics is an interdisciplinary field of combining both linguistics and computer science together. It involves both linguistics research and Computational algorithms together as one for processing data. Computational linguistics means to analyze, to understand and interpret human language using linguistic rules. It involves computational research on languages to express various algorithmic codes and systems. Computational linguistics forms the theoretical foundation for natural language processing.

“Computational linguistics is the study of computer systems for understanding and generating natural language” - Ralph Grishman

Corpus Linguistics

Corpus Linguistics is a branch of linguistics that studies a language by analyzing a large collection of textual data from real life text. “A corpus is a collection of pieces of language text in electronic form, selected according to external criteria to represent a language or language variety” - Douglas Biber, Susan Conrad & Randi Reppen. The corpus linguistics uses real life events to analyze and study the language. It involves the study of real events in a large collection of digital library files stored, it helps researchers to search, count and analyze words or structures from stored corpus digital libraries quickly and accurately.

What Corpus Linguistics Studies

1. How often words are used.
2. Language changes over time.
3. Spoken and written language.
4. Grammar patterns.
5. Combinational words.

Artificial Intelligence Relationship to Linguistics Research

Linguistics studies in language works on the structure, grammar, meaning and usage of words and content. Artificial intelligence uses its computational system to build up models to analyze and interpret these studies to provide theoretical knowledge and by AI it enhances the study of these theoretical knowledge by optimising its powerful tools and technologies that help researchers analyze and understand the language more effectively.

	Linguistics Research	Development of Language Technologies
1.	Multilingual Communication	Machine Translation
2.	Dialects and Language Variation	Speech Recognition
3.	Language Changes	Chatbot
4.	Evolution in Language	Text Summarization

Literacy Review

Biber Douglas Corpus Theory

In recent years, those research efforts have been mostly carried out under the umbrella of 'corpus stylistics'. Most of these studies focus on the distribution of words (analyzing keywords, extended lexical phrases, or collocations) to identify textual features that are especially characteristic of an author or particular text. Corpus-based grammatical and pragmatic analyses of literary language are also briefly considered. Then, in the concluding part of the paper, I briefly survey earlier computational and statistical research on authorship attribution and literary style. While that research tradition is in some ways the precursor to more recent work in corpus stylistics, it is also complementary to recent research in its application of sophisticated statistical and computational methods.

Ravid, Ruth A, and Liliana Tolchinsky Theory

Our view of linguistic literacy consists of one defining feature: control over linguistic variation from both a user dependent (lectal) and a context dependent (modality, genre, and register) perspective; of one concomitant process: metalanguage and its role in language development; and of one condition: familiarity with writing and written language from two aspects : written language as discourse style - the recognition that the kind of language used for writing is essentially different from the one used for speech ; and written language as a notational system - the perception and growing command of the representational system that is used in the written modality.

Domain Transformations after Arrival of AI

After the arrival of artificial intelligence AI these domains have changed a lot compared to the traditional linguistics. Even though artificial intelligence advances the methods and system of building and understanding linguistics to be simple.

Linguistics Research

It developed a massive background for linguistics research by using computational systems and made advances in various fields of linguistics research by promoting:

1. Better understanding of content
2. Emotional tones in content of sentiment analysis
3. Improved language pattern

Corpus Linguistics - It advances the analysis of large collections of data for research purposes.

Computational Linguistics - It advances computational research along with processing of data which are further analysed for linguistics research.

Challenges in the Use of AI in Linguistic Research

The arrival of artificial intelligence in the field of linguistics advanced a lot of things in it, but it also made a lot of changes to traditional linguistics research which affects the way of originality of content in research fields with authorship problems to finite content and origin issues to narrative content of specified datas.

Some disadvantage or cons of using AI in Linguistics research are:

1. Repetition of content
2. Biased data
3. Limitation of words

4. Lack in Originality of content
5. Authorship issues due to repeated data collection
6. Lack of large textual data collection

Methodology of the Study

The research of Computational linguistics and Corpus linguistics along with natural language processing in terms of linguistics research and language understanding involves a wide range of people's understanding along with their respective perspectives. The methodology of the study used in this research is collaborative collection of data using survey forms to acknowledge the perspective of each individual. The overall study is conducted between students of arts and science fields within one college. The data collected are direct primary data obtained from each individual based on their knowledge in computational linguistics, corpus linguistics and natural language processing. The questions acknowledge the facts about the linguistics research and language understanding in the artificial intelligence era. The study questions are attached below for further acknowledgement.

Study Questions

NO	Questions	Options
1.	Among the given fields which you are more familiar with?	a. Computational Linguistics b. Corpus Linguistics c. NLP d. None
2.	Which area of language research benefits the most from AI?	a. Speech processing b. Text recognition c. Language translation d. Language learning
3.	Which type of language data do you think AI analyzes most?	a. Speech b. Return type c. Social media post d. All
4.	Which field specifically combines computer science and linguistics to help machines process human language?	a. Machine learning b. NLP c. Phonetics process d. Bio process
5.	When you talk to Siri or	a. Language transcription

	Alexa, which technology are you using?	b. Language translation c. NPL d. Automated Translating
6.	What is Sentiment Analysis used for?	a. To see if a movie review is happy or sad b. To help computers understand the rules of grammar c. To overcome emotions d. None
7.	What is a Chatbot?	a. A human talking through a computer b. A human speaking to another human c. A computer program you can chat with using text d. It is used to get definite answers for questions
8.	In your opinion, what is the biggest advantage of using AI in language research?	a. Faster analysis of large texts b. Automation of linguistic tasks c. Better understanding of language patterns d. Not sure
9.	How do you think AI changes the way linguists study language today?	a. Makes research faster b. Provides more accurate results c. Helps analyze large datasets d. No major changes
10.	Which AI tool do you think has the biggest impact on communication today?	a. Chatbot b. Machine translation c. Voice assistant d. Text prediction tool
11.	Which skill do you think is most important for future linguists working with AI?	a. Programming skills b. Linguistics knowledge c. Data analysis skill d. All
12.	Are you aware about Computational Linguistics in building systems of algorithmic approach in language research?	a. Well aware b. Knew just now c. Heard about it d. No idea

13.	The collaboration between linguistics and AI will shape the future of language research.	a. Strongly agree b. Strongly disagree c. Neutral d. Disagree
14.	AI generated text is now indistinguishable from text written by a professional human writer.	a. Strongly agree b. Strongly disagree c. Neutral d. Disagree
15.	Using AI in linguistic research increases the reliability and efficiency of language analysis.	a. Strongly agree b. Strongly disagree c. Neutral d. Disagree
16.	How effective do you think AI tools are in helping researchers analyze and understand human language ?	Rate from 1 to 5

The following questions are developed from the research paper content according to the interdisciplinary field that intertwines artificial intelligence with linguistics research and studies. The survey form includes a total of 16 questions in it according to AI in linguistic research along with its powerful tools being used in language understanding. The first 11 questions contain about the understanding of tools and methods used in linguistics research developed from AI and the remaining 6 questions contain the respective perspectives of students on their opinion on agreement and disagreement.

Analysis of the Study

The overall study includes the perspective of students from the arts field and their knowledge on linguistics research through modern AI tools. The study's analysis include the knowledge of students on linguistics research and language understanding and how students use and acknowledge the traditional collective large data available in digital library platform and also how today's modern world changes the linguistics research tradition from textual content to digital library which includes of wrong data and cause repeated data along with authorship and lack of originality content. This disturbs the content quality of the textual research.

Excel Sheet Survey Responses Link

The report of students who did the survey are inserted below in link to sheets

<https://docs.google.com/spreadsheets/d/19EpRpxza-zAK5d4iYKTIgRRKtCXCb5hJS3dyPenuoPo/edit?usp=drivesdk>

The above sheet link contains the students' basic information along with their college field of study or discipline they have got admitted to with their response to the survey questions.

Interpretation of the Study

The analysis report conducted the survey among students of various fields like arts and humanities along with a few biotechnology students to acknowledge their linguistics presence and knowledge. The survey exceeded 106 students.

By on looking on specified questions that state the content about the linguistic research and artificial intelligence in it. The study is drawn from the particular 7 questions which state the students' perspective of linguistics research. The question which states the entire study drawn is:

1. Among the given fields which you are more familiar with?
2. Which field specifically combines computer science and linguistics to help machines process human language?
3. When you talk to Siri or Alexa, which technology are you using?
4. Which skill do you think is most important for future linguists working with AI?
5. Are you aware about Computational Linguistics in building systems of algorithmic approach in language research?
6. AI generated text is now indistinguishable from text written by a professional human writer.
7. Using AI in linguistic research increases the reliability and efficiency of language analysis.

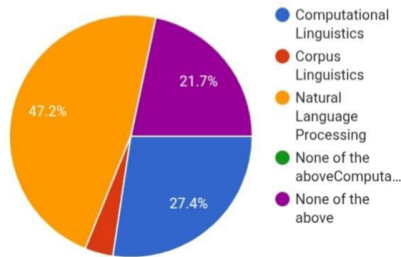
These questions state the familiarity with the linguistic field, indistinguishable AI text from normal contextual data and checking if students are aware of linguistics research tools built by artificial intelligence and used by building up machine learning systems.

Findings

From the survey report it has been proven that the students are in a minority percent in knowledge of linguistics research along with its Computational linguistics research and language understanding. The reports charts are given as proof for analysis from the survey report:

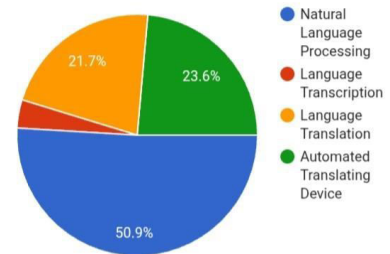
Among the given fields which you are more familiar with ?

106 responses



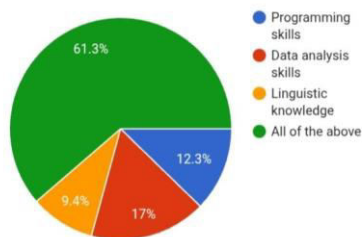
When you talk to Siri or Alexa, which technology are you using ?

106 responses



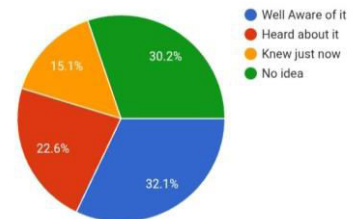
Which skill do you think is most important for future linguists working with AI ?

106 responses



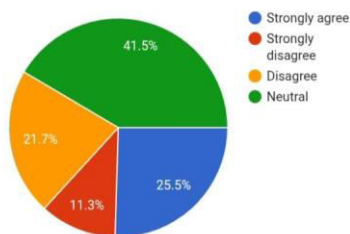
Are you aware about Computational Linguistics in building systems of algorithmic approach in language research.

106 responses



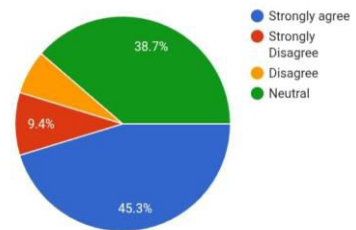
AI generated text is now indistinguishable from text written by a professional human writer.

106 responses



Using AI in linguistic research increases the reliability and efficiency of language analysis.

106 responses



Results

- The study overall states that the students are aware of basic terms of natural language processing along with computer science field which give a percentage of 48.1%
- The students lack knowledge in core research fields of corpus linguistics along with computational linguistics, only 3.8% percent are familiar with it.
- 37.7% of students confuse natural language processing with machine learning, showing they lack the ability to distinguish between linguistics science from general AI.
- About 43.5% of students just found out about computational linguistics research just now and some students still lack the knowledge of it.

Limitation of the Study

The limitations of the study in the research paper of linguistics research and language understanding are:

1. Small size sample - Only a selected small sample research study has been conducted.
2. Institutional limit - The study is conducted at only one college and the results are limited.
3. Homogeneity of participants - The study includes people of the same age category. This back clashes the opinion of people of other ages.
4. Lack of time - The time duration to collect the data and file a survey report.

Scope for Further Research

The scope of this study is limited to a lack of certain things. The study can be further developed into more versatile research if the study is funded and supported by other institutions to report surveys for all students under various disciplines, making the study to be a large size sample. The study can also include all age category people in it to draw the report on age group and develop the study further into analyzing the reports. By making the study large with all age category people, the research in linguistics research and language understanding can be improved more. The reports and further development of tools for linguistics research can be prepared. The bridge between linguistics AI and professional research skills which the students lack knowledge can improve based on their understanding and report.

Conclusion

Overall the research paper states and proves that the arrival of artificial intelligence has transformed the linguistic research and language understanding from their professional research skills. The students are unaware of these researches and lack knowledge about linguistics research of computational linguistics and

corpus linguistics. The report shows that students are high level consumers and they know about the tools but low level researches, they lack knowledge in corpus linguistics and algorithmic approach in systematic research buildings.

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Sound Stories - sharing voices and ideas

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Abstract

“Sound Stories” is a podcast-based webpage designed to create awareness and encourage open discussions about important social issues. The main aim of this platform is to provide a space where people can listen to different perspectives on topics that affect society and students today. Instead of presenting only one opinion, the podcast focuses on understanding multiple viewpoints. The podcast mainly covers topics such as feminism, the impact of social media, and academic pressure faced by students. Through conversations, opinions, and real-life experiences, the podcast helps listeners understand these issues more clearly. The webpage allows users to easily access podcast episodes and explore meaningful discussions in an engaging audio format. Overall, this project aims to promote awareness and create a platform where people feel comfortable discussing important ideas and perspectives in a respectful and informative manner.

Keywords: Podcast, Social Awareness, Feminism, Social Media, Academic Pressure, Student Perspectives, Open Discussion, Youth Issues, Digital Platform, Public Awareness

Introduction

Communication is the key tool for expressing emotions, exchanging opinions and ensures clear decision making. Before newspapers, television, and radio were the main sources through which information was shared with the public. However, with the advancement of digital technology and the internet, new forms of communication are found. Among these, podcasts have become one of the most popular platforms for sharing ideas. Unlike traditional media, podcasts allow people to listen to conversations in a more engaging and accessible manner. It has been gaining more attention especially from young people and students. One of the most important advantages of podcasts is that they allow speakers to express ideas in a natural and open manner unlike the formal lectures and speeches. This makes podcasts an ideal platform for discussing social issues that affect everyday life.

Sound Stories” is a podcast-based webpage created with the goal of encouraging open discussions about social issues that are relevant to society and mainly students today. The podcast focuses mainly on three main topics: feminism and the need of equality, the influence of social media, and academic pressure faced by students. These topics have a strong impact on the lives of young people today

and often influence their thoughts, experiences, and future decisions. The main objective is to focus about these topics as sometimes these subjects are misunderstood or viewed from only one perspective.

In many cases, these issues are discussed in society in a way that leads to misunderstandings. For instance, feminism is sometimes wrongly understood as giving more authority and power to women over men. Similarly, social media has become a major source of information and communication, but it can also spread fake news and unrealistic expectations. Academic pressure is another serious concern, as students today face intense competition, pressure and high expectations from various sources.

The purpose of “Sound Stories” is to provide a balanced platform where these issues can be explored through thoughtful and balanced conversations. By presenting multiple points of views and encouraging open discussions, the podcast helps to understand different perspectives rather than focusing on one particular point of view.

By presenting different viewpoints and encouraging discussion, the podcast aims to help listeners understand these issues in a more balanced and thoughtful way.

Another important point about podcasts is that they create a comfortable space for discussion. Unlike formal speeches or lectures, podcasts allow people to speak in a more relaxed and natural way. This helps listeners understand the topic more easily and feel more connected to the conversation. For students especially, listening to discussions about real social issues can help them think about their own experiences and opinions.

Podcasts are also very convenient because people can listen to them anytime and anywhere. This makes it easier for information and ideas to reach more people, especially young audiences who spend a lot of time on digital platforms.

Through this method, “**Sound Stories**” aims to spread awareness and encourage open thinking. The podcast tries to help listeners understand social issues more clearly by listening to different viewpoints and discussions.

2. Findings

The topics of feminism, social media influence, and academic pressure are closely connected to the experiences of individuals in modern society. The findings highlight the importance of how these issues are understood by students and how they shape their attitudes, behavior, and mental well-being.

The Feminism Puzzle: Equality vs. Perception:

From the discussions held, it was understood that there is no clear clarity on the actual meaning of feminism by society. It highlighted the need to understand the

term and its social perspective. What does the term feminism actually mean? It is about ensuring and establishing equal rights, opportunities, treatment for all genders without any discrimination. But a social image has been built like feminism is about giving more superiority and authority to women over men. The actual meaning has been overshadowed by the misconception 'FEMALE DOMINANCE'. While the movement's core objective is to advocate for gender equality and mutual respect, it is frequently misinterpreted by younger audiences as a movement for female superiority. Many people form opinions without fully understanding the concept of gender equality. However, when the topic is explained through open discussion, many listeners begin to recognize that feminism is actually about mutual respect between genders.

Another key finding is about what qualifies as sexual abuse or harassment? Many are still uncertain in this regard. Sexual harassment is any unwelcome, non-consensual behavior of a sexual nature that violates a person's dignity, makes them feel offended, humiliated, or intimidated, or creates a hostile environment which also includes physical, verbal, or visual acts like unwanted touching, sexual jokes, or sharing explicit content, says law. While laws and policies clearly define these behaviours, public understanding is often limited. These situations can vary widely depending on context, many individuals are unsure about where the boundary lies between acceptable behaviour and harassment. This lack of clarity sometimes leads to confusion or disagreements in public discussions.

At the same time, discussions about alleged false accusations have also become part of public debate. Some high-profile cases have led to concerns about how accusations are handled and how quickly public judgment can form before investigations are completed

Social Media: The Dual Catalyst

The podcast highlights social media as a "double-edged sword" that acts as both a platform for progress and a source of psychological distress. The discussion reveals that for many students, social media have become one of the primary sources of information about social issues and news. Because of this, social media strongly influences how individuals understand topics such as feminism, social justice, and academic expectations.

Social media is a huge help for bringing important issues into the light. Problems that people used to ignore like mental health and gender equality are now being talked about online. Because people share their own stories and videos, it feels safer for everyone else to join in. This has turned once-quiet topics into open conversations that anyone can be a part of.

At the same time, it has its own negatives in terms of misleading, posts go viral so quickly, people often share things before checking if they are true. Short,

emotional videos can make people feel strongly about an issue even if the facts are missing. This leads to a lot of confusion, where people end up arguing or picking sides without actually knowing the full story.

Social media also makes people compare themselves to others. Most people only post their best moments, like their successes and happy lifestyles, which makes their lives look perfect. When students see this all the time, they start to feel like their own lives aren't good enough. This has created the GENZ living styles like staying cringe and being aesthetic for which the younger generation forget their self and happiness. They do stuff just to fit in the social media and pretend to have perfect lives.

Academic pressure:

It is very well made sure that academic pressure is one of the most common and significant challenges faced by students today. This pressure comes from everyone around them – parents who want them to succeed, teachers who push for high scores, and schools that compete with each other. It makes students feel like their only job is to be "the best," which can be very stressful. Many believe that if they don't get perfect grades now, they won't get a good job later. This makes every exam feel like a "make or break" moment. When you feel like one bad grade can ruin your entire career, it creates a huge amount of fear and stress.

One important finding is that many students feel the need to attend coaching classes even when they are already attending regular school or college. This often leads to long daily schedules, where students spend several hours in school followed by classes in coaching centres. As a result, students may have very little time for rest, personal interests, or social activities. This continuous academic routine can create physical and mental stress.

Another observation from the discussions is that coaching institutes often pressure and force for high performance. Many coaching centres highlight rankings, test scores, and results to measure students' progress. While this approach can motivate some students to work harder, it can also create an environment where students feel constant pressure to perform at a high level. When students are repeatedly evaluated through frequent tests, it may increase anxiety and self-doubt.

Because of this constant pressure, many students begin to feel overwhelmed and mentally exhausted. Over time, this can affect their motivation, confidence, and overall happiness. Therefore, it is important for educational systems and families to encourage a healthier balance between academic achievement, personal interests, and the emotional well-being of students.

3. Interpretation

The study through the podcast highlights how important social issues affect the lives and perspectives of young people in modern society. By examining topics such as feminism, the impact of social media, academic pressure, and the role of coaching culture, the paper interprets how these factors shape students' experiences and well-being.

One important interpretation of the study is that many social issues are often misunderstood because of the way information is shared and discussed in public spaces. For example, feminism is often debated, but these discussions do not always present the concept in a balanced way, they are always biased. This interpretation suggests that awareness is essential in making people understand the true meaning and purpose of these issues.

The study also highlights the strong influence of social media in shaping opinions and behaviours among young people. Social media platforms have become one of the main sources of information and communication for students. Through these platforms, individuals are exposed to a wide range of perspectives, discussions, and debates. While this exposure can increase awareness about social issues, it can also lead to misunderstandings when information is shared without proper verification. Therefore, the study interprets social media as both a powerful tool for awareness and a potential source of confusion if information is not critically evaluated.

Another important interpretation relates to the academic environment in which students operate. Expectations from parents, teachers, and society often shape how students measure their own success and self-worth. The presence of coaching institutes and additional academic programs further increases this pressure, as students may feel the need to constantly improve their performance and compete with others. This interpretation highlights the need to consider students' mental and emotional well-being alongside academic achievement.

Another interpretation from the paper is the importance of open discussions on multiple perspectives rather than focusing on one particular stand. In this context, podcasts offer a valuable alternative because they allow conversations to take place in a more relaxed and relatable format and get to know about the actual context without believing everything that they see or hear. Overall, the interpretation of the study suggests that awareness, critical thinking, and open communication are essential for addressing social issues that affect students today.

The findings of the project suggest that podcasts can be an effective medium for discussing sensitive and complex social topics in a more open and engaging way. Through the discussions presented in "Sound Stories," it becomes clear that many social issues are often misunderstood because of incomplete information or biased opinions. The podcast format allows these topics to be explained in a conversational manner, which makes it easier for listeners to understand different perspectives.

In addition, the study also suggests that open conversations play an important role in helping people understand social issues more clearly. When topics are discussed calmly and with different viewpoints, listeners are able to think more carefully about them. This approach helps reduce misunderstandings and encourages more responsible opinions among young audiences.

4. Discussion

The "Sound Stories" project shows how podcasts are great for talking about student and social issues. By discussing topics like feminism, social media, and school stress, the show shares many different points of view instead of just one.

One important point discussed is feminism and how it is often misunderstood. Many people believe feminism is about women being superior to men, but it focuses on gender equality. Since social media can spread a lot of biased info, the podcast helps young people navigate those confusing messages. We also talk about serious issues like harassment, emphasizing that we should **understand the full story** before making quick judgments online.

Another key topic is how social media affects our views. It's a great tool, but it can also spread **misinformation**. The podcast reminds us to be smart about what we read online.

Social media apps use **algorithms that are basically** a set of rules to show you more of what you already like. This makes you only hear opinions you already agree with. On social media, people usually only share their best, that is the most perfect parts of their lives. This makes personal lives look much better than they really are. On social media, people rush to share things before checking if they are true. We help listeners learn to **pause**. A fancy headline usually doesn't tell the whole story, so it's important to look for the facts before you believe it and share.

The podcast also talks about the issue of **academic pressure faced by students**. Many students experience stress due to expectations from parents, teachers, and coaching centres. The increasing competition in education can create mental pressure. By discussing, the podcast highlights the importance of maintaining a healthy balance between academic achievement and personal growth.

Overall, the discussion shows that social issues are complex and cannot be understood through a single perspective. Open conversations, like those presented in "Sound Stories," help people listen to different viewpoints and develop a more informed understanding of the challenges faced in society. The project therefore emphasizes the importance of dialogue, awareness, and critical thinking in addressing social concerns.

5. Conclusion

The project **“Sound Stories”** says how podcasts can be a meaningful and engaging platform to discuss important social issues that affect society, especially the younger generation. By focusing on topics like feminism, the influence of social media, and the academic pressure faced by students, the project highlights the importance of creating platforms where open conversations and multiple perspectives are encouraged. In today’s digital era, people often form opinions quickly based on the first information they hear or see, and platforms like podcasts can help provide a more balanced understanding of social issues.

Through the discussions presented in the podcast, the project stresses that feminism is often misunderstood and misrepresented, particularly on social media. By explaining its true meaning as a movement that supports gender equality, the project aims to reduce misunderstandings and encourage more clear discussions. It also talks about the importance of awareness regarding issues such as sexual harassment and abuse. What these actually mean without believing the existing stereotypes.

Another key aspect highlighted in this project is about the influence of social media. While social media helps in spreading awareness and giving people a voice, it can also lead to misinformation, quick assumptions, and biased opinions. The podcast discussions encourage listeners to think critically about the information they see online and to understand that every social issue often has multiple sides that need to be considered and it is mandatory to consider.

The project also brings an important point to think about, which the academic pressure is experienced by many students due to expectations from parents, schools, and coaching centers. This pressure can affect students’ mental well-being and overall development. By discussing these experiences openly, the podcast aims to create awareness about the need for a healthier balance between academic success and personal well-being. This idea makes sure that students are made free to share about their choices and opinions and make sure they are not in a hostile environment.

In conclusion, **“Sound Stories”** is a place that helps people learn, think, speak for themselves and for society. By talking about important topics and showing many different sides of a story, the project helps listeners understand the world in a more thoughtful way. Because it’s a podcast, these big ideas are easy to listen to and understand, especially for young people. Overall, the project shows that when we talk openly and get the facts right, we can help make our society a better and more aware place for everyone.

“Sound Stories” demonstrates how podcasts can be used as an effective platform for discussing meaningful social issues in an engaging and accessible format. By focusing on topics such as feminism, academic pressure, and the

influence of social media, the project highlights issues that are highly relevant to students and modern society.

The podcast encourages listeners to think about different perspectives and develop a deeper understanding of complex social discussions. Overall, the project aims to promote awareness, encourage thoughtful dialogue, and create a space where important ideas can be discussed openly and respectfully

Documenting the Gen-z slangs through visual story telling - paper presentation based on language learning approach.

P.V. Varnika & S. Swetha
S. Rohini & S. Ranishka

Abstract

This comic book presents a creative exploration of the post-millennial experience through the lens of Generation Z. Using engaging illustrations and relatable storytelling, it captures the everyday realities, emotions, and perspectives of young people growing up in a digitally connected world. The narrative reflects common aspects of Gen Z life, including friendships, social media influence, academic pressure, personal identity, and the search for meaning in a rapidly changing society. By combining humor, honesty, and visual storytelling, the comic aims to represent the authentic voice of this generation. Ultimately, the project highlights how Gen Z individuals understand themselves, navigate challenges, and express their ideas in the modern world.

Keywords: Generation Z, Comic storytelling, Youth culture, Digital generation, Social media influence, Identity exploration.

Introduction

This Paper presentation focuses on how "Generation Z" (Gen Z) communicates in today's world. As students in the Department of EEE at Kumaraguru College of Technology, we wanted to look at language from a fresh perspective. Instead of writing a traditional long essay, we decided to use a "Project-Based Language Learning" approach. This means we used creative storytelling to document the unique slang and phrases used by young people today.

The main goal of this comic is to explore the "post-millennial experience". We believe that visual storytelling—using illustrations and dialogue bubbles—is the best way to capture the "authentic voice" of our generation. It allows us to show the humor, honesty, and real-life situations that define our daily lives. By using comics, we can represent how we actually feel and speak in a way that feels more relatable and "real. Language is constantly evolving, and each generation contributes new expressions that reflect its culture, identity, and way of communicating. Generation Z, commonly known as Gen Z, has developed a unique set of slang words and phrases that are widely used in social media, online communication, and everyday conversations. These expressions often carry meanings that may not be easily understood by people from other generations. The project titled "Documenting Gen Z Slang Through Visual Storytelling: A Project-Based Language Learning Approach" aims to explore and document popular Gen Z slang words in a creative and engaging way. Instead of presenting the words in a traditional dictionary format, this project uses comic storytelling to visually represent the meaning and usage of

these slang terms. Through this approach, the project not only highlights the linguistic creativity of Gen Z but also makes language learning more interactive and enjoyable. By combining visual storytelling with modern slang, the project helps readers understand the context, tone, and real-life usage of these expressions. Ultimately, this work serves as both a creative documentation of contemporary youth language and an innovative method for enhancing language learning through visual communication. Storytelling has always played an important role in how people share ideas, emotions, and experiences. Over time, the way stories are told has evolved with each generation. Today's Generation Z, often described as the digital generation, has grown up in a world shaped by smartphones, social media, memes, and fast-paced communication. As a result, their perspectives, humour, and ways of expressing themselves are different from those of earlier generations. Traditional forms of writing alone may not always capture these experiences effectively, which is why visual storytelling such as comics has gained renewed importance.

Comics combine images and text to communicate ideas in a simple yet engaging way. They allow readers to connect with characters, situations, and emotions more easily than long textual narratives. For Gen Z, comics can reflect everyday realities such as academic pressure, online culture, friendships, identity exploration, and the influence of digital platforms. Through relatable characters and familiar situations, comics create a space where readers can see aspects of their own lives represented.

This comic book project attempts to present the experiences and mindset of Gen Z through a visual narrative format. By blending contemporary themes with creative illustrations and dialogue, the work aims to capture the humour, challenges, and aspirations that define this generation. The project also demonstrates how comics can serve not only as entertainment but also as an effective medium for communication and reflection in today's youth.

Digital dialects

Language plays an important role in how people express their thoughts, emotions, and ideas. In every generation, new words and expressions are created to reflect the culture and lifestyle of that time. In today's world, Gen Z slang has become an important part of modern communication, especially among young people. These slang words help make conversations more expressive, casual, and relatable.

One reason Gen Z slang matters is because it reflects the identity and creativity of young people. Through slang, Gen Z is able to express humor, emotions, and opinions in a short and interesting way. Many slang words carry deeper meanings that help people communicate their feelings quickly without using

long sentences. Another important aspect of Gen Z slang is its connection with digital culture. Most of these words are widely used in social media platforms, online communities, and digital conversations. Because Gen Z spends a lot of time interacting online, slang becomes a natural part of their daily communication. These words help make online interactions more fun, engaging, and expressive. Gen Z slang also plays a role in creating a sense of belonging among young people. When individuals use the same slang words, they feel more connected to others who understand the meaning and context of those expressions. It becomes a shared language that represents the experiences and culture of a particular generation. At the same time, the rapid growth of slang can sometimes create a communication gap between generations. People from older generations may not always understand the meaning of these new expressions. This is why documenting and explaining Gen Z slang is important. It helps bridge the gap by making modern language easier for everyone to understand. Through this project, we aim to explore and present Gen Z slang in a creative and accessible way. By using visual storytelling through comics, readers can see how these words are used in real-life conversations. This approach not only makes learning more interesting but also helps preserve and document the evolving language of today's generation. Overall, Gen Z slang matters because it shows how language continues to change along with society, technology, and culture. Understanding these expressions helps us better understand the way young people communicate in the modern world.

Language is not fixed; it changes and develops over time. One of the most interesting parts of language is slang, which includes informal words and phrases used mostly in casual conversations. Slang helps people express their thoughts, emotions, and reactions in a more creative and relaxed way. Over the years, slang has continued to evolve along with society, culture, and technology. In earlier times, slang mainly spread through face-to-face conversations, movies, music, and local communities. Different groups of people created their own slang words to express identity and belonging. For example, young people often used slang to communicate with friends in a way that adults might not fully understand. This made slang a unique and dynamic part of everyday communication. In modern times, the evolution of slang has become much faster because of the internet and social media. Platforms such as Instagram, YouTube, and messaging apps allow new words and expressions to spread quickly among millions of people. A word that starts as a joke, meme, or trend online can become widely used within a short period of time. Generation Z, or Gen Z, plays a major role in creating and popularizing modern slang. Many Gen Z slang words are short, expressive, and often influenced by online culture. Words like "rizz," "slay," "no cap," "vibe," and "sus" are examples of slang that are commonly used in digital conversations. These words help young people communicate quickly while also adding humor and personality to their messages.

Another important feature of modern slang is that it is often connected to visual content such as memes, short videos, and comics. This means that understanding the context and situation is important to fully understand the meaning of the slang word. Because of this, visual storytelling can be a very effective way to explain and demonstrate how slang is used in real-life situations. Overall, the evolution of slang in modern communication shows how language adapts to the changing world. As technology and culture continue to develop, new slang words will continue to appear. Documenting these words helps us understand how language grows and how different generations communicate in their own unique way.

Visual storytelling is a creative way of sharing ideas and information through images, illustrations, and short dialogues. Instead of using only written text, visual storytelling combines pictures and words to explain concepts in a clear and interesting way. This method is widely used in comics, graphic novels, animations, and educational materials because it makes learning more engaging and easier to understand. In language learning, visual storytelling plays an important role in helping learners understand the meaning of words through context. When a word or phrase is shown in a picture along with a short conversation, readers can easily understand how the word is used in real-life situations. This makes the learning process more effective compared to simply reading definitions from a dictionary. Comics are one of the most popular forms of visual storytelling. They combine illustrations, characters, expressions, and dialogues to tell a story. Because comics are colorful and entertaining, they attract readers of all ages. At the same time, they help readers learn new vocabulary, understand emotions, and see how language is used in everyday communication. In this project, visual storytelling is used to present and explain Gen Z slang words. By combining images, creativity, and simple dialogues, it makes the learning experience more engaging and meaningful. Through this project, we aim to use visual storytelling to make the understanding of Gen Z slang easier, more interesting, and more relatable for readers.

Language in the age of memes

In the digital era, communication has changed in many ways, and one of the most popular forms of online communication today is the meme. Memes are humorous images, short videos, or creative posts that spread quickly across the internet. They are often used to express ideas, emotions, or reactions in a simple and entertaining way. Because of their popularity, memes have become an important part of modern communication, especially among Generation Z. Memes are not only meant for entertainment; they also influence the way people use language. Many slang words and expressions become popular through memes and viral online content. When a meme becomes widely shared, the words used in it are repeated by thousands of people in comments, captions, and everyday conversations. As a result,

these expressions quickly become part of Gen Z slang. Another important feature of meme culture is that it combines visual elements and short text to communicate meaning. A single image with a short phrase can express a situation, emotion, or joke that many people can relate to. This type of communication is quick, creative, and easy to understand, which is why it has become very popular among young people. For Generation Z, memes are a way to connect with others and share common experiences. Whether it is about college life, friendships, or daily struggles, memes help people express their feelings in a light and humorous way. The language used in memes is often simple, playful, and full of slang, which reflects the communication style of today's youth. This connection between memes and language is closely related to our project. Since memes often rely on visual storytelling, they show how images and short dialogues can effectively explain modern slang words. Inspired by this idea, our project presents Gen Z slang through comic-style storytelling. By showing slang words in visual situations, readers can easily understand their meaning and usage. In this way, the project combines the creativity of memes with the structure of storytelling. It demonstrates how visual communication can be used not only for entertainment but also as a powerful method for language learning. Through this approach, readers can explore Gen Z slang in a fun, engaging, and meaningful way while also understanding the cultural context behind these expressions. In today's digital world, memes have become one of the most popular ways people communicate, especially among Gen Z. Earlier, language was mostly limited to formal writing, books, or face-to-face conversations. But now, with social media platforms like Instagram, WhatsApp, and Twitter, communication has become faster, shorter, and more visual. Memes play a huge role in this change. They combine images, short captions, slang, and humor to express ideas in a simple and relatable way. At the same time, memes show how language keeps evolving. Just like slang and pop culture influenced language in the past, memes are now doing the same in the digital age. They prove that communication is not only about grammar and long sentences, but also about creativity, humor, and shared experiences.

In short, memes have transformed language into something more visual, expressive, and relatable. They reflect how the younger generation communicates in a fast-moving online world, where sometimes a single meme can say more than a whole paragraph. In today's digital world, memes have become one of the most popular ways people communicate, especially among Gen Z. Earlier, language was mostly limited to formal writing, books, or face-to-face conversations. But now, with social media platforms like Instagram, WhatsApp, and Twitter, communication has become faster, shorter, and more visual. Memes play a huge role in this change. They combine images, short captions, slang, and humor to express ideas in a simple and relatable way. What makes memes interesting is that they can say a lot with

very few words. Sometimes just one image and a short phrase can express emotions like frustration, happiness, sarcasm, or excitement. Because of this, memes have almost become a new form of language. People don't always need long explanations anymore; a meme can explain the whole situation instantly.

Memes also influence the way people use words. Many phrases that start as memes slowly become part of everyday conversation. Words like "mood," "relatable," or certain sarcastic expressions often spread through memes before becoming common in daily speech. This shows how internet culture shapes modern language. Another interesting thing is that memes create a shared understanding among people of the same generation. When someone shares a meme, others who understand the reference feel connected. It becomes a kind of inside joke that only people familiar with internet culture can fully appreciate. At the same time, memes show how language keeps evolving. Just like slang and pop culture influenced language in the past, memes are now doing the same in the digital age. They prove that communication is not only about grammar and long sentences, but also about creativity, humor, and shared experiences. In short, memes have transformed language into something more visual, expressive, and relatable. They reflect how the younger generation communicates in a fast-moving online world, where sometimes a single meme can say more than a whole paragraph.

Bridging the gap

When we first thought about creating a comic book for our paper presentation, we did not want it to feel like a normal academic project. Most research papers explain ideas through long paragraphs and formal language, but that style does not always connect with the way our generation communicates. As students who belong to Gen Z, we experience the world in a very visual and fast-moving way. We share ideas through memes, short videos, emojis, and quick conversations online. Because of this, we felt that a comic book would be a more natural and relatable way to express the experiences of our generation.

The idea behind our comic, "Bridging the Gap," came from a simple observation. There is often a visible gap between how Gen Z students think and how older generations understand us. Many adults assume that young people spend all their time on phones without realizing that these digital spaces are also where friendships grow, creativity develops, and opinions are formed. At the same time, students sometimes struggle to explain their feelings, pressures, and daily experiences to people outside their generation. Through this comic, we wanted to show that our lives are not just about scrolling on screens; they are filled with moments of stress, humour, confusion, learning, and self-discovery.

The comic follows characters who represent everyday college students. Instead of creating superheroes or fantasy worlds, we focused on situations that

actually happen in student life. For example, one scene might show a group of friends discussing assignments while secretly checking their phones for notifications. Another scene might highlight the pressure students feel during exams while still trying to maintain friendships and personal interests. These small moments may seem simple, but they reflect real emotions that many young people experience. Humour plays a very important role in the comic. Gen Z often uses humour as a way to deal with stress or awkward situations. Memes, sarcasm, and exaggerated reactions are part of how we communicate with each other. By including these elements in the comic panels, we tried to make the story feel natural and familiar to readers who belong to our generation. At the same time, the humour also helps other readers understand the mindset and personality of Gen Z in a lighter and more engaging way. Another aspect we focused on was visual storytelling. Instead of explaining everything with text, the characters' expressions, body language, and panel layouts help convey emotions and reactions. Sometimes a single expression or a short line of dialogue can communicate more than a long explanation. This style reflects the way Gen Z processes information quickly and visually. It also keeps the reader engaged and makes the story feel more dynamic. Creating this comic was also a collaborative learning experience for us as students. We had to think about character design, dialogue writing, and how to structure scenes so that the story flows naturally. Brainstorming ideas together helped us understand how different people interpret the same experience in different ways. Some ideas came from personal experiences in college life, while others came from common situations that many students talk about with their friends. In the end, "Bridging the Gap" is not just a comic book; it is an attempt to represent the voice of our generation. Through simple stories, humour, and relatable characters, the comic tries to create a connection between Gen Z students and readers from other age groups. It shows that while technology has changed the way we communicate, the emotions and challenges we face are still very human and universal. By presenting these experiences in a creative and visual format, the comic helps bring different perspectives closer together and encourages a better understanding of the world Gen Z is growing up in.

Conclusion

In conclusion, this project highlights how language continues to evolve along with society, technology, and culture. Generation Z has developed a unique style of communication that is strongly influenced by digital platforms, memes, and online interactions. By documenting Gen Z slang through visual storytelling, this project demonstrates how comics can make language learning more engaging, relatable, and creative. Through this comic book, we attempted to capture the everyday experiences, humour, and emotions of our generation. At the same time, the project

helps bridge the communication gap between different generations by explaining modern slang in an accessible way. Overall, this work shows that combining creativity with learning can make language more meaningful, interactive, and enjoyable. Through this project, we attempted to document and present these slang expressions in a creative way using visual storytelling through comics. Instead of explaining the words through traditional definitions, the comic format allows readers to see how these expressions are used in real-life situations. This makes the learning process more engaging, relatable, and easier to understand. By combining illustrations, dialogues, and everyday scenarios, the comic helps readers connect with the language and the experiences of Gen Z students. By combining a dictionary format with comic illustrations, this project transforms language learning into an enjoyable experience. The comic scenes provide context, humor, and storytelling, helping readers easily understand the meaning and usage of each slang term. This approach not only documents modern vocabulary but also celebrates the creativity of youth culture. In conclusion, the Gen-Z Dictionary Comic Book serves as a bridge between traditional language and modern digital communication. It captures the voice of a generation, preserves contemporary slang, and encourages better understanding between different age groups. Most importantly, it shows that language is always evolving, and every generation contributes to shaping how we communicate in the future.

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Sporting Stories as a Tool for experimental Language Learning

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Abstract

This project is about the journeys of athletes from Tamil Nadu. These Tamil Nadu athletes have shown a lot of determination and excellence even though they faced problems with people recognizing them and other social and economic challenges. It talks about athletes like Mariyappan Thangavelu who does jump Satish Kumar who does boxing, Sathish Sivalingam who does weightlifting Gomathi Marimuthu who does athletics and Sharath Kamal who does table tennis. The project also talks about the Alanthangarai Kabaddi Club which's a grassroots club. It shares the struggles and perseverance of these Tamil Nadu athletes showing how many of them were overlooked even though they did well at national and international levels. While it is true that technology helps with training and getting noticed online the focus is on the people behind the success of these Tamil Nadu athletes. It says that being recognized in sports today is not about winning medals and having good stats it is really about being resilient having an identity and making an impact, on the community. By telling the stories of these Tamil Nadu athletes the project wants to highlight athletes whose journeys inspire people to do more than just clap for them.

Keywords: Tamil Nadu athletes, resilience, underrated champions, grassroots sports, recognition, modern sports culture.

Introduction

Sport in India has long been associated with glory, national pride, and collective celebration. However, beyond the widely televised victories and celebrated icons lies a parallel narrative of struggle, resilience, and perseverance. Tamil Nadu, a state known for its rich cultural heritage and academic excellence, has also produced remarkable athletes who have achieved distinction despite facing social, economic, and institutional barriers. The journeys of these athletes reveal that success in sports is not merely a matter of physical strength or talent, but also a test of mental endurance, community support, and personal identity.

In contemporary society, sports recognition is often influenced by media visibility and digital presence. Athletes who receive institutional backing and sponsorship are more likely to be recognized, while many grassroots performers remain unnoticed. This imbalance becomes particularly evident in regional contexts such as Tamil Nadu, where several athletes have excelled at national and international levels but have not received proportional acknowledgment. The present study explores the stories of selected Tamil Nadu athletes, focusing on their

struggles, socio-economic backgrounds, and the broader cultural implications of their achievements.

The objective of this project is not merely to recount their victories but to examine how resilience, identity, and community engagement define their journeys. It aims to understand how sports culture in Tamil Nadu intersects with technology, recognition, and grassroots development. By highlighting individual and collective efforts, this paper seeks to reposition recognition in sports as a matter of social justice rather than mere statistical success.

Socio-Economic Challenges and Early Struggles

Athletic development in many parts of Tamil Nadu often begins in modest circumstances. Unlike metropolitan centers with advanced training facilities, many aspiring athletes train in rural grounds, public stadiums, or makeshift spaces. Financial instability, limited access to professional coaching, and inadequate infrastructure frequently hinder early development. For athletes coming from economically weaker sections, balancing training with education and part-time employment becomes a significant challenge.

Many families initially perceive sports as a risky career path due to uncertain income and limited security. This societal hesitation often discourages young talent. Despite these barriers, certain individuals demonstrate extraordinary commitment. Their journeys highlight how family encouragement, even when accompanied by financial strain, becomes a crucial factor in sustaining athletic ambition.

The broader structural limitations in sports funding and sponsorship further complicate matters. While cricket enjoys widespread corporate backing in India, other disciplines such as athletics, boxing, weightlifting, and para-sports often struggle for equal attention. This imbalance affects training quality, exposure opportunities, and mental preparation. Therefore, the success of Tamil Nadu athletes must be understood against a backdrop of systemic inequalities rather than isolated individual effort.

Resilience in Para-Sports and High Jump

The story of Mariyappan Thangavelu stands as a powerful example of resilience overcoming adversity. Coming from a rural background and facing a physical disability caused by a childhood accident, he encountered multiple layers of social and infrastructural barriers. Despite limited resources, his commitment to high jump training transformed his perceived limitation into a source of strength. His achievements at international competitions not only brought recognition to Tamil Nadu but also challenged societal assumptions about disability and capability.

Mariyappan's journey underscores the importance of inclusive sports highlighted the transformative power of representation. Beyond medals, his story

symbolizes dignity, self-belief, and the rewriting of social narratives surrounding disability. infrastructure. Para-athletes often struggle with inadequate accessibility and limited sponsorship. However, his success inspired policy discussions on inclusive training facilities.

Boxing and the Fight for Recognition

Boxing in Tamil Nadu does not enjoy the same mainstream popularity as certain other sports. Nevertheless, athletes like Satish Kumar have demonstrated how determination and disciplined training can lead to national and international representation. Boxing requires not only physical endurance but also strategic intelligence and psychological resilience. For athletes emerging from modest backgrounds, the sport often becomes both a means of empowerment and a platform for social mobility.

Satish Kumar's journey reflects the dual challenge of competing against opponents in the ring while simultaneously confronting economic constraints outside it. Access to quality equipment, nutrition, and recovery facilities plays a decisive role in competitive performance. The perseverance displayed by such athletes reveals the interplay between individual effort and systemic support structures.

In addition, boxing culture in Tamil Nadu often thrives through local clubs and state-level competitions. These grassroots ecosystems nurture talent but require greater institutional recognition. The success of boxers from the region emphasizes the need for sustained policy attention and sponsorship diversification beyond popular sports.

Weightlifting and the Burden of Expectations

Weightlifting is a discipline that demands intense physical training, nutritional discipline, and mental fortitude. Sathish Sivalingam's achievements demonstrate how structured training combined with personal dedication can lead to remarkable success. However, behind these achievements lies a narrative of sacrifice. Athletes in strength-based sports often endure rigorous routines that limit social life and academic pursuits.

Financial support becomes particularly crucial in weightlifting, where specialized diets and equipment are essential. For many athletes from Tamil Nadu, government scholarships and state incentives play a significant role. Yet, these provisions may not fully compensate for the absence of consistent corporate sponsorship. The psychological burden of expectations, especially after achieving early success, adds another dimension to their journey.

Sivalingam's perseverance reveals how mental conditioning complements physical preparation. His story demonstrates that athletic excellence is a cumulative result of discipline, community encouragement, and institutional backing.

Athletics and the Struggle for Continuity

Gomathi Marimuthu's journey in athletics reflects another dimension of resilience. Middle-distance running demands sustained stamina and continuous competitive exposure. For athletes without strong sponsorship networks, maintaining consistency becomes challenging. Travel expenses, accommodation costs, and access to physiotherapy significantly influence long-term performance.

Gomathi's success challenged the stereotype that only metropolitan athletes can dominate track events. Her determination to continue training despite limited financial security highlights the role of self-motivation in sustaining athletic careers. Moreover, her story brings attention to the gender dimension in sports recognition. Women athletes in regional contexts often face additional societal pressures, including expectations regarding marriage and domestic responsibilities. Overcoming these barriers requires not only personal courage but also progressive community attitudes.

Table Tennis and Professional Consistency

Sharath Kamal represents sustained excellence in table tennis from Tamil Nadu. His career illustrates how long-term dedication, exposure to international tournaments, and professional management contribute to consistent performance. Unlike many grassroots athletes, he benefited from structured coaching and international participation opportunities. However, maintaining performance over decades demands extraordinary discipline.

His achievements highlight how Tamil Nadu can produce world-class athletes when adequate infrastructure aligns with talent. At the same time, his journey underscores the importance of mentorship. Established athletes often serve as role models, inspiring younger generations to pursue professional training. Recognition, therefore, extends beyond individual medals to the creation of a sustainable sporting ecosystem.

Grassroots Movements and Community Sports

The Alanthangarai Kabaddi Club exemplifies the strength of community-driven sports culture. Grassroots clubs play a crucial role in identifying and nurturing local talent. Kabaddi, deeply rooted in rural traditions, represents not merely a competitive sport but also a cultural expression. Community clubs often operate with minimal funding yet produce athletes capable of state and national representation.

These grassroots initiatives emphasize collective participation rather than individual celebrity. Training sessions double as social gatherings, strengthening community bonds. However, lack of financial stability and professional coaching can limit the long-term growth of such clubs. Recognizing their contribution is essential for balanced sports development.

Grassroots sports embody democratic access to athletic participation. They ensure that sports remain accessible to economically disadvantaged youth. The sustainability of these initiatives depends on policy support, sponsorship outreach, and digital visibility.

Technology, Media, and Digital Visibility

In the contemporary era, recognition in sports increasingly depends on digital presence. Social media platforms allow athletes to share training routines, competition updates, and personal stories. For Tamil Nadu athletes, technology offers both opportunities and challenges. On one hand, online visibility can attract sponsorship and fan support. On the other hand, digital popularity often overshadows athletes who lack media skills or resources. Technology also influences training methodologies. Advanced analytics, performance tracking applications, and virtual coaching have improved preparation standards. However, unequal access to these resources creates disparities between urban and rural athletes. Bridging this digital divide remains a critical objective for inclusive sports development. The emphasis on technology should not overshadow human resilience. While digital platforms amplify recognition, the core of athletic achievement remains discipline, perseverance, and community encouragement. Therefore, technological integration must complement, not replace, grassroots engagement.

Identity, Recognition, and Social Impact

Recognition in sports transcends medals and statistics. For many Tamil Nadu athletes, identity formation becomes intertwined with regional pride and social representation. Their success challenges stereotypes about rural backwardness or socio-economic limitations. When athletes from marginalized backgrounds achieve international recognition, they redefine community aspirations.

Sports also function as instruments of social mobility. Scholarships, government employment opportunities, and sponsorship deals can transform family livelihoods. The ripple effect of one athlete's success often inspires younger children within the same locality. Moreover, public recognition fosters accountability within sports institutions. Celebrating diverse disciplines encourages balanced funding allocation. It also promotes inclusivity by acknowledging para-athletes and women athletes. Thus, recognition becomes a social responsibility rather than a selective celebration.

Conclusion

The journeys of Tamil Nadu athletes reveal that sports excellence is a complex interplay of resilience, community support, infrastructure, and evolving technology. While media attention often gravitates toward high-profile disciplines, numerous athletes continue to strive in relative obscurity. Their stories remind us that perseverance, not popularity, forms the foundation of achievement. This project emphasizes that recognition in modern sports culture should move beyond medal counts. It should acknowledge the struggles, sacrifices, and identities that shape athletic journeys. By documenting these narratives, we contribute to a more inclusive understanding of sports culture in Tamil Nadu. Ultimately, the transformation from struggle to mastery is not a solitary accomplishment but a collective triumph involving families, coaches, communities, and institutions. Recognizing this interconnected effort ensures that future generations perceive sports not merely as competition but as a pathway to dignity, empowerment, and social change.

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Engineering Myths vs Reality: A Podcast-Based Experiential Learning Model for Enhancing Technical Awareness and Communication

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Abstract

Engineering education is often shaped by common misconceptions that influence how students view the field and its job requirements. Myths like “Engineering is only about machines,” “Engineers do not need communication skills,” “Automation completely eliminates human error,” and “If it works once, it will always work,” lead to a limited understanding of engineering practice. These misconceptions affect career choices and restrict interdisciplinary awareness and critical thinking among students.

This project explores widespread myths about engineering and addresses them through a structured podcast series designed for experiential learning. The study uses a collaborative, inquiry-based method where students identify, examine, and critically assess ten popular engineering myths related to design, automation, performance, measurement accuracy, cost assumptions, and workplace environments. Each episode includes expert insights from academia and industry, featuring specialists from Kumaraguru College of Technology, Highlander Automation, and Mlantic AV, ensuring a balance of theory and practical experience.

The podcasts also include interactive live query sessions to foster dialogue, reflection, and clarity among participants. This initiative combines technical knowledge with communication skills, promoting interdisciplinary competence, critical reasoning, and professional awareness. The project assesses how this approach impacts students’ understanding of engineering concepts, their ability to dismantle myths, and their confidence in communication. By blending technical discussions with media-based sharing, this study offers a model for tackling misconceptions in the field while encouraging engagement in engineering education.

Introduction

Engineering plays a fundamental role in shaping modern civilization. The infrastructure we depend on, transportation systems, medical devices, communication technologies, computer systems, and energy networks are all developed through engineering processes. In many ways, engineering forms the backbone of the systems that support everyday life.

However, despite its importance, engineering is often misunderstood by the general public. Many people still think of engineering as mainly mechanical work done in factories or related only to repairing machines. These simplified views reduce a highly sophisticated and multidisciplinary field into a narrow stereotype.

The persistence of these myths can create several problems. First, students may start believing that communication skills and analytical reasoning are not important in engineering. Second, educational institutions might focus too heavily on memorizing theoretical concepts instead of encouraging systems thinking and problem-solving. Third, industries may experience skill gaps because students graduate with expectations that do not match real engineering work. Finally, society may underestimate the intellectual responsibility and ethical role that engineers carry in designing systems that affect millions of people.

At its core, engineering is the disciplined application of scientific and mathematical principles to design systems that function reliably in the real world. Engineers must work within several constraints such as cost, safety, sustainability, manufacturability, and environmental impact. Unlike pure science, which mainly focuses on understanding how things work, engineering focuses on using that knowledge to build practical and scalable solutions. Engineers must often make decisions and design systems even when there is uncertainty in real-world conditions.

Below is your text **humanized in the same style as the previous introduction** – it keeps **all ideas, structure, and academic tone**, but reads more **natural for a college student presenting a paper**. I also **expanded some explanations slightly** so the word count is a little higher while preserving the content.

Objectives of This Study

The purpose of this paper is to explore and clarify some of the most common misconceptions surrounding engineering as a discipline. Although engineering plays a critical role in shaping modern society, many misunderstandings still exist about what engineers actually do and how engineering systems function.

To address this issue, this study focuses on several key objectives.

First, the paper aims to **identify common misconceptions about engineering** that are widely believed by students, the public, and sometimes even within academic environments.

Second, it seeks to **analyse the social and educational origins of these beliefs**. Many of these myths develop due to media portrayals, historical perceptions of engineering work, and limitations in how engineering is sometimes taught in educational institutions.

Third, the study attempts to **evaluate these myths using established engineering principles**. By applying concepts from systems engineering, reliability theory, and risk management, the paper examines why these assumptions are inaccurate or incomplete.

Fourth, the paper aims to **demonstrate the systemic and probabilistic nature of engineering practice**. Engineering decisions are rarely absolute; they often involve dealing with uncertainty, trade-offs, and complex interactions between different components.

Finally, this study intends to **promote a culture of evidence-based reasoning among engineering students**. By encouraging students to question assumptions and analyze engineering concepts critically, the discipline can move closer to a more accurate and mature understanding of engineering practice.

Theoretical Background

Before examining specific engineering myths, it is important to first understand some of the **fundamental principles that define engineering practice**. These principles provide the conceptual framework needed to evaluate the misconceptions discussed later in this paper.

Engineering as a Systems Discipline

Engineering rarely focuses on isolated components. Instead, it primarily deals with **systems**, which are collections of interacting components working together to achieve a specific objective.

A system can be understood as a network of elements that influence one another and collectively produce a desired function or outcome. When engineers design or analyse systems, they must consider how each part interacts with the others rather than studying each component independently.

For example, an **automobile** is not simply an engine attached to wheels. It is a complex system that includes several interconnected subsystems such as the engine, transmission, suspension, braking mechanisms, electronic sensors, and control algorithms. Each subsystem affects the performance and reliability of the entire vehicle. Similarly, a **power grid** operates as a large-scale engineered system. It integrates electricity generation plants, transmission lines, distribution networks, transformers, and load management systems to ensure stable and reliable power delivery.

Because of these interactions, engineering design must consider multiple system-level factors. Systems engineering therefore emphasizes several important concepts, including:

- Interdependency between components
- Management of technical and practical constraints
- Feedback mechanisms that regulate system behaviour
- Optimization of performance under real-world limitations

Many misconceptions about engineering arise when people focus only on individual components rather than understanding how those components interact within a larger system.

Engineering and Uncertainty

Another key aspect of engineering practice is the presence of **uncertainty** in real-world conditions.

Theoretical models often assume ideal environments where variables behave exactly as predicted by equations. However, real engineering systems rarely operate under such perfect conditions.

In practice, systems experience various unpredictable factors such as:

- Environmental variability
- Imperfections in materials
- Variations in human interaction with technology
- Manufacturing tolerances and production limitations

These uncertainties mean that engineering design must go beyond simple deterministic calculations.

To manage uncertainty, engineers rely on several probabilistic and statistical tools, including:

- Reliability theory
- Statistical quality control
- Risk assessment techniques
- Failure mode and effects analysis

These methods allow engineers to estimate the probability of system failure and design systems that remain reliable even when unexpected conditions occur.

Therefore, any myth that assumes **complete certainty or perfect predictability in engineering** contradicts the fundamental probabilistic nature of engineering practice.

Analysis of Engineering Myths

Myth 1: Engineering Is Only About Machines

Sociological Origin of the Myth

One of the most widespread misconceptions is that engineering is mainly related to machines and mechanical equipment. This belief has historical roots. During the early industrial revolutions, engineering was strongly associated with **mechanical production, factories, and heavy machinery**. As a result, the public began to view engineers primarily as individuals who design or operate machines. Media portrayals further reinforced this image by frequently depicting engineers in industrial environments surrounded by mechanical equipment.

Multidisciplinary Reality

In reality, modern engineering extends far beyond mechanical machinery. Today's engineering landscape includes numerous specialized fields that address a wide variety of technological challenges.

Some examples include:

- Embedded systems development
- Artificial intelligence modelling
- Biomedical signal processing
- Structural earthquake analysis
- Renewable energy system integration
- Cloud computing infrastructure design

Organizations such as **NASA**, for instance, employ engineers working in areas like orbital mechanics, advanced materials science, control systems, and large-scale data analysis. Many of these roles involve sophisticated computational modelling rather than direct interaction with mechanical machines.

Conceptual Expansion

From a broader perspective, engineering is fundamentally concerned with:

- Formulating complex problems
- Defining operational constraints
- Developing mathematical and computational models
- Optimizing system performance
- Evaluating long-term system lifecycle behaviour

Machines are simply **one category of engineered systems**. Engineering as a discipline encompasses a much wider range of technological and analytical activities.

Conclusion

Engineering should not be defined solely by machinery. Instead, it is best understood as a **structured approach to solving complex problems within practical constraints**.

Myth 2: Engineers Don't Need Communication Skills

Root Cause

Another common misconception is that engineers only need technical knowledge and numerical accuracy, while communication skills are considered secondary.

This belief often arises from academic evaluation systems where students are rewarded mainly for obtaining correct numerical answers rather than clearly explaining their reasoning.

Professional Reality

In professional environments, however, engineering projects rely heavily on **effective communication**.

Engineers must regularly produce:

- Detailed design documentation
- Technical justification reports
- Risk assessment analyses
- Cross-disciplinary coordination plans
- Presentations for stakeholders and decision-makers

Even in highly advanced technology companies such as **Tesla**, engineering teams consist of professionals from mechanical, electrical, software, and manufacturing disciplines. Successful project execution requires clear communication between all these teams.

Technical Consequences of Poor Communication

When communication is ineffective, several serious problems may occur:

- Misinterpretation of design specifications
- Safety issues due to misunderstood requirements
- Project delays caused by coordination failures
- Increased development costs

Therefore, communication is not merely an additional skill; it is essential for ensuring that technical ideas are implemented correctly.

Conclusion

Engineering expertise without the ability to communicate ideas clearly can significantly limit professional effectiveness.

Myth 5: Safety Factors Make Systems Completely Safe

Contextual Analysis

In engineering design, uncertainty is always present due to variations in materials, manufacturing processes, environmental conditions, and operational loads. To account for these uncertainties, engineers incorporate a **Factor of Safety (FOS)** into design calculations. The safety factor creates a margin between the expected working load and the load at which a component would fail. However, this margin does not eliminate all risk.

Engineering Reality

Even when safety factors are applied, systems may still fail due to several reasons, such as:

- Unexpected dynamic loading conditions
- Long-term material fatigue

- Human errors in design or operation
- Manufacturing defects
- Environmental degradation such as corrosion or extreme temperatures

Safety factors therefore **reduce the probability of failure**, but they cannot guarantee complete safety.

Mathematical Representation

The factor of safety can be expressed as:

FOS = Failure Load / Working Load

For example, if a component fails at **1000 N** but normally operates at **250 N**, then:

$$\text{FOS} = 1000 / 250 = 4$$

This indicates a safety margin, but it does not mean the component is impossible to fail.

Engineering Principle: Risk Management

Engineering safety is achieved through multiple layers of protection rather than relying on a single safety margin. These measures include:

- Redundant systems
- Preventive maintenance schedules
- Monitoring and safety control mechanisms
- Conservative design assumptions

Industries such as aerospace and nuclear engineering implement **several safety layers** to minimize risk.

Conclusion

Safety factors improve system reliability, but they do not guarantee absolute safety. Engineering safety depends on **system-level risk management strategies**.

Myth 7: Engineering Calculations Always Predict Perfect Real-World Results Contextual Analysis

Engineering calculations are essential tools used to predict system behaviour before construction or manufacturing. These calculations rely on mathematical models that simplify complex physical phenomena.

However, real-world systems rarely behave exactly as predicted because many unpredictable variables influence their performance.

Sources of Deviation

Differences between theoretical predictions and actual performance may occur due to factors such as:

- Variations in material properties
- Manufacturing tolerances
- Environmental influences like temperature and vibration

- Measurement uncertainties
- Simplified assumptions used in mathematical models

Even small variations in these parameters can produce noticeable differences between calculated and observed results.

Mathematical Perspective

Engineering models often assume ideal conditions. For example, in classical mechanics:

$$\mathbf{F} = m\mathbf{a}$$

This equation predicts force based on ideal mass and acceleration.

In real systems, additional forces such as friction, air resistance, and structural deformation affect the system.

Therefore,

$$\mathbf{Real\ Behaviour = Theoretical\ Model + External\ Influences + Uncertainties}$$

Engineering Practice: Validation and Testing

Because calculations alone cannot perfectly represent reality, engineers rely on additional validation methods such as:

- Computer simulations
- Prototype development
- Experimental testing
- Iterative design improvements

For example, aircraft designs undergo extensive **wind tunnel testing and flight trials** before entering service.

Conclusion

Engineering calculations provide valuable predictions but cannot perfectly replicate real-world behaviour. Successful engineering combines **theoretical modeling, simulation, and experimental validation**.

4. Discussion

Engineering myths often persist due to several societal and educational factors, including cognitive simplification, media stereotypes, memorization-focused assessment systems, and limited exposure to real industrial environments.

Correcting these misconceptions helps develop stronger **systems thinking, risk awareness, analytical maturity, and ethical responsibility** among engineering students.

Engineering should therefore be understood as a **probabilistic decision-making discipline that operates under multiple constraints and optimization challenges**.

5. Educational Implications

To address these misconceptions effectively, engineering education should incorporate several improvements, such as:

- Communication-focused coursework
- Case studies of engineering failures
- Reliability engineering laboratory experiments
- Trade-off analysis exercises
- Interdisciplinary project collaboration

These approaches can help shift engineering education from **rote memorization toward systems-oriented problem solving**.

6. Conclusion

This analysis demonstrates that engineering myths often distort the true nature of the discipline. In reality, engineering is characterized by:

- Constraint management
- Optimization processes
- Statistical reasoning
- Effective communication
- Continuous testing and validation

Replacing misconceptions with a systems-based understanding helps develop **more capable, adaptable, and industry-ready engineers**.

7. Future Scope

Future research in this area may explore several directions, including:

- Conducting empirical surveys among engineering students
- Comparing misconceptions across different engineering disciplines
- Developing case-study-based teaching models
- Integrating behavioural psychology concepts into engineering education

Gamified Learning Approaches: Enhancing English Language Acquisition through Interactive Engagement

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Abstract

Gamified learning integrates game-design elements such as points, badges, leaderboards, challenges, and storytelling into educational environments to enhance English language acquisition. This method makes learning more interactive and enjoyable, encouraging students to actively participate in language activities. By transforming traditional lessons into engaging tasks and missions, gamification helps learners practice vocabulary, grammar, and communication skills in a motivating and supportive environment. It also reduces language learning anxiety and increases student confidence while using English.

Several research studies highlight the positive impact of gamification on language learning. Students exposed to gamified English lessons often demonstrate higher engagement, improved vocabulary retention, and better participation compared to traditional classroom approaches. Digital platforms such as Kahoot! and Quizizz have successfully turned routine quizzes into interactive competitions, motivating students to learn through play. These tools encourage collaboration, quick feedback, and healthy competition, which support better learning outcomes.

However, the adoption of gamified learning also faces certain challenges, including limited technological infrastructure, lack of teacher training in game-based teaching methods, and unequal access to digital devices. To overcome these issues, institutions can adopt mobile-friendly learning tools, provide professional development for teachers, and promote community-based access to technology. With proper implementation, gamified learning can become a powerful and scalable strategy for improving English language proficiency and making language education more engaging and effective.

Keywords: Gamified Learning, English Language Acquisition, Student Engagement, Vocabulary Retention, Digital Learning, Interactive Education.

Technology and Evolution of English

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Abstract

This comprehensive review paper examines the transformative influence of 21st-century technological advancements on the evolution of the English language, with a particular focus on digital communication platforms such as social media, instant messaging applications, and artificial intelligence (AI) systems. The study analyze show these innovations have accelerated profound linguistic changes, including lexical innovation through neologisms like "doomscrolling," "stan," "googling," and "hashtag" and the rise of multimodal communication that seamlessly integrates text with emojis, GIFs, and visual symbols. The paper further delineates the emergence of hybrid linguistic forms—"English 2.0" and "digital English"—which prioritize brevity, blur traditional boundaries between formal and informal registers, and enhance expressive efficiency for global audiences while challenging established grammatical norms. AI-driven tools not only revolutionize personalized English language instruction—often outperforming conventional pedagogical methods—but also subtly reshape native speaker habits through predictive text algorithms, autocorrect features, and generative content creation. Key findings underscore technology's role as a primary catalyst for linguistic evolution, fostering lexical enrichment and adaptive communication strategies. Yet provoking critical concerns regarding standardization erosion, widening digital divides, and diminishing formal proficiency among younger generations. The analysis advocates for innovative, adaptive pedagogical approaches that harness these technological affordances while safeguarding essential language competencies. Ultimately, this rapid evolution represents a natural, accelerated adaptation to the demands of fast-paced, interconnected global communication. The paper calls for sustained interdisciplinary research to systematically track long-term semantic, syntactic, pragmatic, and cultural shifts shaping the future linguistic landscape. Key Words: English2.0, digital English, neologisms, multimodal communication, AI language tools, lexical innovation, predictive text, linguistic evolution, digital divide, adaptive pedagogy

Introduction:

Language has always evolved alongside social and technological change. Major developments such as the printing press and broadcasting media influenced how language was standardized and distributed across societies. In the digital era, however,

communication technologies have accelerated linguistic change at an unprecedented rate. Online platforms now allow millions of individuals to interact instantly across geographical boundaries. Through social media, messaging applications, and digital forums, users create new expressions, abbreviations, and communication styles that often spread globally within a short period of time. Linguist Gretchen Mc Culloch explains that internet communication has developed its own linguistic conventions, including innovative punctuation, emoji usage, and creative spelling designed to convey tone and emotion (Mc Culloch, 2019). English occupies a particularly influential role in this process because it remains one of the dominant languages of online communication. Research by the Pew Research Centre indicates that a significant portion of global internet content appears in English, allowing linguistic innovations originating in digital communities to spread rapidly across different cultural contexts (Pew Research Centre, 2023). These developments have prompted scholars to explore the idea of “digital English,” a flexible variety of English shaped by the communicative needs of online environments. This paper examines how digital technologies influence language evolution through lexical innovation, multimodal communication, and artificial intelligence-assisted writing practices.

Literature Review:

The relationship between technology and language change has been widely discussed in linguistics. Earlier communication technologies such as telegraph systems required concise phrasing because of technical and economic constraints. Modern digital communication similarly encourages shorter messages and faster interactions. Research by David Crystal suggests that digital communication represents a distinct linguistic register rather than a degradation of traditional language forms (Crystal, 2021). Crystal argues that features such as abbreviations, emoticons, and unconventional punctuation function as creative tools that help users convey tone and social meaning in digital contexts. Scholars have also examined how digital environments influence reading and writing habits. Naomi S. Baron notes that individuals often read differently on screens compared with printed texts, frequently engaging in scanning or multitasking behaviours (Baron, 2021). These changes may influence writing styles by encouraging shorter and more fragmented forms of expression. Another important perspective comes from sociolinguistic research. Studies published in journals such as *Language in Society* emphasize that language use in digital environments reflects broader social identities and cultural practices (Tagliamonte & Denis, 2008). Online communities often develop distinctive vocabulary and communication styles that reinforce group identity. Researchers in computer-mediated communication have also highlighted the growing importance of visual elements in digital discourse. Studies published in the *Journal of Computer-Mediated Communication* demonstrate that emojis and other visual markers often function as pragmatic cues that help clarify tone and emotion in written interactions (Derks, Bos, & von Grumbkow, 2008). Together, these studies suggest that digital communication environments encourage new forms of linguistic creativity while simultaneously reshaping traditional language practices. **Lexical Innovation and Digital Neologisms:** One of the most visible consequences of digital communication is the rapid emergence of new vocabulary. Online communities frequently create expressions that reflect technological practices, cultural trends, and social interactions. Some of these words

eventually become widely recognized and are recorded in major dictionaries such as the Oxford English Dictionary. Terms such as “selfie,” “hashtag,” and “doomscrolling” illustrate how digital experiences generate new linguistic expressions. According to linguistic research, digital platforms enable new vocabulary to spread rapidly through user-generated content and viral communication patterns (Mc Culloch, 2019). However, not all digital slang survives long enough to become part of Standard English. Many expressions remain limited to specific online communities or cultural contexts. Linguists therefore view digital communication as an environment that encourages continuous experimentation with language. From a sociolinguistic perspective, this process resembles earlier forms of language change, but the speed of diffusion is significantly faster because of global connectivity and constant online interaction.

Multimodal Communication in Digital English: Modern digital communication frequently combines written text with visual elements such as emojis, GIFs, and images. This integration of multiple communication modes is commonly described as multimodal communication. Emojis have become an important component of digital discourse. They allow users to express emotional tone or social meaning that may not be easily conveyed through text alone. For example, the addition of a laughing emoji can transform a simple statement into a humorous remark. Researchers argue that emojis function similarly to nonverbal cues in face-to-face communication. Just as gestures and facial expressions contribute to meaning in spoken interactions, emojis help clarify tone in digital messages (Crystal, 2021). Multimodal communication therefore blurs the traditional distinction between spoken and written language. Digital messages often resemble conversational speech in their informality and immediacy, reflecting the interactive nature of online communication environments.

Artificial Intelligence and Language Use: Artificial intelligence technologies are increasingly integrated into communication tools used for writing and editing text. Grammar-checking software, predictive text systems, and generative language models assist users in producing written content. For example, writing assistants such as Grammarly provide suggestions for grammar, punctuation, and vocabulary improvements. These tools can be particularly helpful for language learners who need guidance when constructing written sentences. At the same time, researchers in computational linguistics have begun to examine how AI technologies may influence writing habits. Studies published in Computational Linguistics suggest that predictive algorithms may encourage the use of common phrases or standardized sentence structures (Bender et al., 2021). Generative AI systems also raise questions about authorship and originality in academic writing. Educational institutions increasingly debate how these tools should be used responsibly by students and researchers.

Challenges and Digital Inequality: Despite the widespread adoption of digital technologies, significant disparities remain in global access to internet infrastructure. Many communities still face limited connectivity, which restricts their participation in online communication networks. International organizations such as UNESCO emphasize the importance of improving digital literacy and technological infrastructure to reduce these inequalities (UNESCO, 2023). Without such initiatives, linguistic developments occurring in digital environments may remain inaccessible to many populations. Another challenge involves balancing informal digital communication with formal academic writing. Educators frequently observe that students accustomed to informal online messaging may struggle to adapt to formal writing

conventions required in academic contexts. Addressing these issues requires educational strategies that recognize both the legitimacy of digital communication and the continued importance of traditional literacy skills. Educational Implications: Educational institutions must adapt to changing communication practices while continuing to promote strong writing skills. One effective strategy involves teaching students how to move between different language registers depending on context. For example, informal digital communication may be appropriate in social settings, whereas formal language structures remain necessary for academic and professional writing. Developing this awareness can help students become more flexible and effective communicators. Digital technologies can also support language learning through personalized feedback and interactive learning platforms. However, educators must ensure that such tools complement rather than replace traditional teaching methods.

Conclusion

The evolution of English in the digital age demonstrates the ongoing relationship between technological innovation and linguistic change. Social media platforms, multimodal communication systems, and artificial intelligence tools have created new environments in which language develops and adapts. Although digital communication encourages new forms of linguistic creativity, it also raises important questions about literacy practices, language standardization, and digital access. Rather than viewing digital language as a threat to traditional English, researchers increasingly interpret it as part of the natural evolution of language in a technologically connected world. Future research in digital linguistics will be essential for understanding how emerging technologies continue to shape communication practices and language development.

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Idioms: A step towards fluency

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Abstract

This project started with a small thought of how native speakers differ from regional speakers, there are many things that should be learnt by a regional speaker from pronunciations, grammar to using different terminologies instead of simpler ones. One such thing that creates the difference between native speaker and a regional speaker is that the usage of idioms. Even though people in India are made to study about Idioms it only stands as a topic for the kids to score marks. To make the process of learning of idioms easy we decided to start an Instagram page, which will help the people learn idioms easily. We were particular about the topic idioms, through the process of listening to various podcasts, watching movies, we came to a conclusion that idioms were the major thing that influenced the fluency of the native speakers. Being an undergraduate engineer, we feel that fluent English is a way through one can sustain in a work or in a study place abroad.

The basic ideology was to make the process of speaking English easy...., first we started by sourcing all the basic idioms and their meanings the next step was to screen and analyse the similarities between the idioms and give one idiom for each situation we thought of giving appropriate meaning in Tamil but written in English... and a short story is also provided this short story was made with the help of AI which means we did not completely rely on AI instead the basic idea for the story was developed by each of us and AI was used to develop the story. AI is a great tool to learn. We learnt about idioms and their uses with their appropriate meaning, this made us understand about peoples presumption of idioms and their usage while making a general convo with our peers we came to know that they knew that something called idioms existed and they even knew some of them but the problem was that they did not know where to use the idiom as they were not aware of the proper meaning. This project will be useful for people to learn idioms and their uses and make them use these idioms in their daily life easily.

Introduction

Fluency in English is not always connected to grammar and vocabulary knowledge, it also includes expressions like idioms which is important for day today communication. We come across Idioms in movies, podcasts, books, and social media which proves that it is an important and effective part of communication. However, for many regional speakers, idiom remains a difficult concept. Although idioms are being taught in school, they are only memorized for examinations and not been applied in daily communication. As a result students only know the definition of idioms, but are often unsure about when and how to use them correctly in real life situations. This creates a gap between native and regional speakers in terms of fluency and confidence . To address this issue, our project mainly focuses

on making idioms learning in simple and impactful way through an Instagram platform. Social media allows people to quickly view, understand and share information. The use of social media as a learning platform make this project more engaging with people and also attracts learners of different ages. In our Instagram page, idioms are explained in easy and engaging format which includes posts with idiom's meaning in Tamil and English, a short story and conversations which explains the usage of idioms in daily life. This kind of approach help learners connect idioms with real life communication rather than memorizing them as theoretical concepts. Regular exposure to idioms can gradually increase a person's confidence in using English in different situations. During the content development process Artificial Intelligence is used as a supportive source . AI is mainly used for generating pictures and is also used for checking if there is any grammatical errors. This help ensured that the content remain clear , visually appealing and easy for the learners to understand. However the selection of idioms, conceptual ideas for examples and the design of the project are being developed by the team members. By this project, we aim to make idioms simple and easy to learn, and encourage people to use idioms confidently in their daily communication.

Literature Review

Idioms are the uttermost essential part of language proficiency due to their contribution for natural way of communication. These are fixed or semi-fixed expressions whose meanings cannot be understood easily from the root words used. Due to this learners are made to understand their figurative and contextual meanings and usage despite focusing only on vocabulary. The ability to interpret idiom expressions, help learners understand the traditional communication more accurately and respond appropriately in certain situations.

Idiomatic expressions occur frequently in everyday spoken language and informal discourse. They are mostly found in conversation, literature, media and other forms of communication. Due to their frequent usage, familiarity with idioms, it enables learners to understand natural speaking pattern more easily. Without enough knowledge of idiomatic expressions, learners would find it difficult to understand certain sentence even when they have a good understanding of grammar rules and vocabulary. Therefore, development of awareness in learning idioms is considered as an important step in improving language comprehension and communication skills.

Research in language education has also examined effective method for teaching idioms. Conventional teaching methods often showcase idioms as isolated expressions followed by definitions that students are compelled to memorize just for marks. However, this type of approach always would not help students apply idioms correctly in real-life communication. Research and case studies indicate that learners understand idioms more effectively when they are introduced with real life

examples and contextual explanations. Teaching idioms through examples, dialogues and narratives allow learners to observe how the expression functions within a particular real life situation. Visual representation and scenario based explanations can help learners form clear association between the idiom and its intended meaning. When learners are able to visualise the situations described by an idiom, the meaning becomes easier to understand and remember. These methods of learning help learners associate meaning with practical usage, which improves retention and understanding.

Moreover, modern language learning environments are largely incorporated with digital platforms that provide attainable educational content. Social media platforms and online resources allow learners to gain knowledge of idiomatic expressions in different formats, including short text, images and interactive explanations. This method of exposure supports repeated learning and encourages students to engage with language beyond traditional classroom settings. Combining contextual explanations, AI visual support and accessible platforms to learn have been recognised as an effective method for improving the understanding and use of idioms in language learning.

Research Objectives

The main objective of our research is to get to know about the importance of idioms in English communication and the role of idioms in native like expressions, the native speakers use idioms in their everyday conversation making it sound fluent and effortlessly catchy. By inculcating the habit of using idioms makes sure that people are able to speak naturally and express their thoughts easily and thoughtfully making the conversation engaging. This work focuses on the effectiveness of idioms in everyday conversation.

Communication is a key part of human survival in this growing population, this research makes sure that students are aware about the idioms and their usage in different situations, preparing them to meet the fluency like the native people, as they are used in literature media and academic discussions, social platforms and in movies. Learning idioms gives them a confidence in matter of fluency and effective communication making it easy for them to understand and interpret the daily conversations of the native people. This focuses on the daily communication. This research also worked on having a deeper thought on how the idioms can be imparted in the life of a person effortlessly and effectively. Using stories and dialogue narration and animated pictures. Pictures were generated using AI giving precise results and easy understanding.

Lately as kids are exposed to media and online platforms due to this exposure, they have the inner urge and ability to be one of those native speakers which is caused without anybody else forcing them. This study makes sure that the

younger population and the youth are able to access and gain knowledge on this particular topic in a much simpler way to explore the idioms and their use in conversations on a much understandable way. This research highlights on the ways in which idioms can be effectively introduced to the human population especially the growing young population. Helping to analyse the effective way to reach out to the users and learners. Making it easy for the users to get to know about and analyse. Making idiom learning more engaging and fruitful by including Tamil English mixed language. This research also works on identifying effective teaching strategies and memory techniques that help students remember idioms easily. The study focused on paving way to the most effective and efficient way to help learners understand about idioms and make this process even easier. The usage of Tamil-English meanings made the understanding more precise.

Methodology

It included various phases and process;

It was a study more than being research. Firstly, the list of idioms was taken a note of keeping in mind that these idioms should not be repeated in the aspects of their meanings and area of usage keeping this in mind in around some 80 idioms were made note of. Later their meanings were carefully examined and their usage was noted. To make this study more effective we used a different ideology of focusing the Tamil Nadu learners, so this idea popped as we were thinking about the reach of the topic. This is just the beginning step it can be done for any language using the AI applications making it easier for learning.

We give idioms and their meaning in a common notion that it should reach all the people easily moreover for a bit more targeted audience we made sure that the meaning was given in Tamil but typed in English so the meaning of the idiom was much more easily understandable, and could be used for the people with linguistic memory, this step was not solely dependent on AI we thought and translated our own understanding of the idiom later giving it as a input to the Ai application to ensure it was error free.

As of images, these were generated using AI keeping in mind that the existing images did not give a clear explanation of the desired idiom and was a little confusing, by giving AI the idiom and it is meaning it gave easy understandable images, which would connect to the idiom. One with photographic memory can have it easily stored. And not only this we also made use the imagery skills of a person. We incorporated stories and dialogues so one can connect visually and make use of the same idiom, when necessary, these methods were given the utmost importance.

Results and Discussions

By using AI to develop a website and Instagram page to tutoring the viewers to gain knowledge about idioms and its usage in day-to-day life is more likely to be easy for us to create those contents in a proper way.

“KILL TWO BIRDS WITH ONE STONE” reached for 1K+ views and other idioms till this date we posted has been reached among many students to gain knowledge in idioms and make it useful for them while in daily conversation and in future it will be more professional way to speak to your colleagues’ adding idioms to your sentence.

As this idiom in the Instagram post an example, 58.8% seen through story, 17.9% through feed. Audience age is more likely to be 18-24, their English-speaking skills must be improved by having a proper sight in our page.

Still 62.3% of viewers did not follow our insta page but somewhat how they have been practicing in case, it should be very helpful for them in Fluency speaking.

Surprisingly in the very first post “COST AN ARM AND A LEG”, it have been seen among 13-17 age group (26.6%), there are teenagers it will be very helpful for their grammar exercise and also in exam point of view.

At last, all of our work is done easily by using only by AI like Claude ai, ChatGPT, Gemini, etc.... By using this kind of AI to our work is reducing our work time by 50%. Initially one or two post are worked by us manually, it takes lot of time like ½-1 hour for a single idiom, it includes Tamil meaning for easy understanding, a story to depict those idioms and daily conversation with your surroundings.

After we using AI in our work, it reduced our working time to 15-20 minutes only. We used AI for checking grammatical mistakes in the sentence and asks “Is this story perfect to understand for students?”, if not make it as enhanced story. Also, in the conversation page we would be ask about “Is this right place to use this idiom here?” and it will give us the right place to say the idiom in a right way.

Conclusion

The use of AI in the field of content framing is enhanced due to the AI tools that helps us to make perfect curated piece of content for the general people usage to increase their standard of English to next level. So our idea of creating the idioms and website helped many ones who are interested in this type of knowledge gaining experience which can be tribute to those attentive ones. As the AI industries like OpenAI, Claude, and Gemini upgraded their LLMs and multimodal AI stuffs which can helpful for us to make more effective and complied knowledge by our own content to make common people and people who are in working profession can express their thoughts and ideas about the improvement of society and company clearly than usual.

Also, the AI helped us in making webpage like Duolingo for the interactive learning by completing the level of knowledge about the idioms which was the main objective of our idea. The webpage consists of different framework and different languages which are selected by us and here AI helped in making the webpage light weighted. Here we used mainly Claude AI to make a perfect webpage for use of many users without the webpage being crashed. We ensured the webpage version can be updated using the GitHub through we can update the new things and progress programs to make the audiences always interesting about learning about the idioms.

As part of our idea, we thought to make one post which combines two languages which includes English and Tamil (which are widely used in social media communication). First, we work without AI which take plenty of time to finish but after using AI, the work is reduced by half as the curated work is perfectly done by AI named ChatGPT and the ideas of making post in Instagram and make an interactive website like Duolingo can be more general as nowadays the Instagram is downloaded by 500+ crore people across the world. So, the Instagram post is more reachable than any other platforms. Here the AI played a major role as after we made those post by ourselves, we used AI to intensify the information without any inefficient content which helped us to expand influence towards many interested peoples.

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