Abstract Booklet

1st

International Conference on AI and Multidisciplinary Innovations (ICAMI – 2026)

Northern University, Nowshera

Wattar Walai, Ziarat Kaka Sahib Road, Nowshera

Khyber Pakhtunkhwa, Pakistan

https://ai.northern.edu.pk , conference@northern.edu.pk

About Northern University

In 2002, the EDR Trust with the cooperation of Government of Khyber Pakhtunkhwa established a new university to extend higher education to the people of the north, offering a high quality of higher education. Laying of the foundation started in April 2005, with the main campus opening on November 14,2008 in Wattar Walai, Ziarat Kaka Sahib Road. The academic standards and governance in the university brought it the coveted W category in the Higher Education Commission (HEC) in 2009.

Since its establishment, the Northern University has expanded its programs to incorporate the sciences, engineering and information technology, business and social sciences and allied health sciences. The HEC of Pakistan recognizes the institution, and their programs are accredited by the statutory NCEAC council of computing education as well as Allied Health Council and Pakistan Nursing council. These accreditations reinforce the fact that the university engages in quality assurance and relevance to the professional and healthcare sectors.

In order to support the innovations and research in the new area, Northern University opened the first International Conference on AI and Multidisciplinary Innovations (ICAMI -2026). The conference provides an academic platform of researchers, scholars and educators.

The conference looks into the AI uses in education, research, healthcare, business, linguistics and more. The historic academic milestone of ICAMI-2026 in the region is a measure promoting interdisciplinary discourse and joint studies. It also presents the interest of the university in the rising technologies and encourages the use of the AI in teaching and research.

One of the first international AI conferences in Khyber Pakhtunkhwa is the ICAMI-2026 with its emphasis being on the commitment of Northern University to academics and internationalization.

Welcome to The Conference

The international conference on AI and Multidisciplinary Innovations (ICAMI-2026) is an academic meeting uniting academicians, researchers and students to discuss the transformational nature of Artificial Intelligence in a variety of fields, such as computer science, mathematics, business, English linguistics, medical sciences, and education. The conference will offer an opportunity to exchange the findings of the research, discuss new tendencies and promote interdisciplinary cooperation.

We wish that ICAMI-2026 would be a way of developing knowledge, innovation, and academic and professional networks.

Conference Themes

- Computer Science & Artificial Intelligence
- Applied and Pure Mathematics
- Management Sciences
- Business Analytics
- English Linguistics
- Education
- Health Sciences

Message of Patron of Conference

It is a great privilege to welcome outstanding scholars, researchers, and practitioners to the *First International Conference on Artificial Intelligence and Multidisciplinary Innovations* (ICAMI-2026) hosted by Northern University, Nowshera. After its establishment in 2002, university has grown to be a believable place of learning and research, with its staunch position towards academic excellence, innovation and service to society. ICAMI-2026 reflects the vision through the provision of an interdisciplinary platform through exchange of ideas and research at a time when artificial intelligence is altering various fields. Through the assistance of academic and commercial collaboration, the conference encourages ethical, accountable, and sensible innovation. I believe that the event will bring these thought-provoking lessons and provoke future partnerships and I would like ICAMI 2026 to be successful.

Prof. Dr. Muhmmad Jamil Sawar

Message of Co-Patron

It is an honour to welcome you to the 1st International Conference on AI and Multidisciplinary Innovations (ICAMI) at Northern University. ICAMI represents the integration of Artificial Intelligence with diverse disciplines, promoting collaboration across engineering, healthcare, social sciences, and emerging technologies to address real-world challenges.

Through international academic and professional exposure in the United States, I have observed how Artificial Intelligence acts not as an isolated domain, but as a unifying force connecting multiple fields of knowledge.

I extend my sincere appreciation to the organizing committee for their outstanding leadership and dedication. I am confident that the discussions and collaborations formed here will inspire new research directions, strengthen partnerships, and contribute to responsible and future-focused innovation. I wish all delegates a productive and intellectually enriching conference experience.

Mr. Taha Sawar

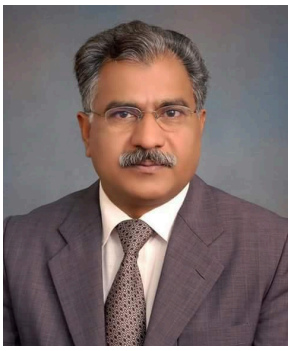
Message of Conference Chair

On behalf of the organizing committee, I warmly welcome all participants to the *International Conference on Artificial Intelligence and Multidisciplinary Innovation*. This conference provides a good opportunity that can enable researchers, academicians, and practitioners to share their ideas, offer research, and discuss the new trends in artificial intelligence in various fields of use. The multidisciplinary nature of the conference highlights the value of collective actions regarding the attempt to tackle modern scientific and technological issues. I would like to

acknowledge highly positive mark to the keynote speakers, the authors and the reviewers and to the Organizing Team, which are priceless. I hope this conference will not only be an intellectual enrichment but will also lead to scholarly and research partnerships.

Dr. Mohsin Raza

Message of Co-Chair



As Conference Co-Chair I am pleased to welcome the scholars and researchers to Northern University to this conference. The forum is an ideal platform for sharing novel works and forming meaningful intellectual exchange and nurturing productive partnerships across numerous fields. This Conference is an example of our resoluteness and determination to develop interdisciplinary discussion and address the most urgent academic and social problems of our time. I am convinced that the discussions, scholarly presentations, and vibrant interactions that will emerge throughout the duration of this conference will provide deep, meaningful insights and help to bring a new academic collaboration. We hope your time at Northern University is both productive and enjoyable, and we anticipate that the outcomes of this conference will contribute significantly to the academic community.

Prof. Dr. Muhammad Naeemullah Bajwa

Message of Chief Organizer

Distinguished guests, esteemed colleagues and valued participants, It is my pleasure to welcome you all to the 1st International Conference on AI and Multidisciplinary Innovations (ICAMI-2026) at Northern University. We are honored to host this significant gathering to exchange knowledge, insights, and solutions for a more sustainable and inclusive future. In today's rapidly evolving global landscape and technological advancement, Artificial Intelligence has emerged as a transformative force across disciplines, reshaping how knowledge is created, analyzed, and applied. This conference is designed as an interdisciplinary platform to explore the expanding role of AI in Computer Sciences, Management Sciences, Linguistics, and Education, fostering dialogue between theory, innovation, and practical implementation. This conference at Northern University reflects our commitment to examining cutting-edge research, emerging trends, and real-world applications of AI. We are privileged to host distinguished keynote speakers, researchers, and participants whose expertise and contributions will enrich academic discourse and inspire collaborative innovation. I extend my sincere appreciation to the organizing committee, reviewers, sponsors, partners, and volunteers for their dedication and tireless efforts in making this conference a success. Wishing you all a productive, insightful, and rewarding conference experience.

Dr. Shoaib Munawar

Abstracts

Computer Science & Artificial Intelligence

Title: A Quantitative Comparative Study of Hashtag Use Between an AI Virtual Influencer and a Human Influencer: Exploring Online Identity Construction.

Authors: Sarah Akbar, Yusra, Asma Mushtaq, Fatima Tu Zahra, Habiba Khan,
Corresponding email: Email: yushajahangir21@gmail.com

Abstract

This study is about the discovery of online identity construction of an AI virtual influencer (Lil Miquela), whether it acts as human or reflects AI personality. Researchers used quantitative approach followed by a comparative analysis to compare the hashtags of an AI virtual influencer (Lil Miquela) with a human influencer (Lewis Hilsetenger) for accuracy in results. This research highlights the use of elements of CASA Paradigm theory and Hyperpersonal model which states that humans treat computers and AI agents as social beings and perceive them as both socially and emotionally authentic. Data was collected through manual scraping from the reels of both influencers. To find the underlying themes of the hashtags, content analysis was performed. Results were obtained by using frequency analysis of hashtags. Findings revealed that AI virtual influencer (Lil Miquela) exhibits more human-like personality than AI-like, through the underlying patterns and themes of hashtags used.

Keywords: Virtual influencer, hashtags, content analysis, CASA Paradigm, Hyperpersonal Model.

A RPTSP Model to Improve The Quality of RE and Testing Process In Agile Software Development

Authors: Irum Ilays Corresponding email;irum@biit.edu.pk

Abstract

The Agile methodology for creating and managing software projects is based on a series of iterative steps. The software development life cycle relies on testing a program against target requirements and finding software faults. The two processes namely software requirement and testing are vital for developing an application that is according to its intended needs. Since testing guarantees that the resulting software satisfies the requirements, a tighter relationship exists between requirements engineering and testing. In an agile setting, unnecessary and duplicate software requirements must be weeded out during the requirement phase. However, major hazards related to fault detection abilities are present throughout the testing phase. This research provides a method for addressing software testing issues in an agile context through requirement prediction. To enhance Requirement Prediction, Test-case Selection, and Prioritization in an agile environment, a Model RSTP is developed that draws on semantic analysis and case-based reasoning strengths. Three separate projects were used to test and analyze the RPTSP model. Compared to other FDR approaches like the analytical hierarchical process, clustering, and others, the RPTSP model is the most accurate in identifying requirements, effective in detecting mistakes, and applicable to all projects.

Keywords: Requirement prediction, Software Testing, Agile software development, RPSTP, Semantic analysis, Case-based reasoning.

Title: Understanding the Performance of Deep Learning Models for Fake News Classification

Authors: Junaid Yousaf, Muhammad Owais, Iqra Pervaiz, Abdul Basit, Mazhar Iqbal

Corresponding email: junaidyousaf432@gmail.com

Abstract

The rapid dissemination of fake news through online media platforms has raised serious social and political concerns, motivating the development of automated detection systems. This paper presents a comparative analysis of multiple deep learning models for fake news classification, including Long Short-Term Memory (LSTM), Gated Recurrent Unit (GRU), Deep RNN, Bidirectional RNN, and CNN-RNN hybrid architectures. Experiments are conducted on a balanced benchmark dataset using Word2Vec and FastText embeddings under consistent preprocessing and evaluation settings. The results show that Word2Vec-based representations consistently outperform FastText across most architectures, with LSTM and CNN-RNN achieving the strongest overall performance. The study highlights the importance of embedding–architecture compatibility and provides insights into the limitations of commonly used text representations for fake news detection.

Keywords: Fake News Classification, Long Short Term Memory (LSTM), Deep Recurrent Neural Network (DRNN), Convolution Neural Network, Natural Language Processing, Word Embeddings.

Title: CPU Architecture Toolkit For Custom Processor Design And Instruction Execution Simulation

Authors: Gulam Mustafa, Saeed Iqbal, Corresponding email: saeed@biit.edu.pk

Abstract

Understanding computer architecture is often difficult due to its abstract and design-oriented nature. This paper presents a CPU Architecture Toolkit, an Android-based application that allows learners to design and visualize their own processor architectures by defining registers, instruction formats, memory organization, bus width, addressing modes, and flag registers. A unique feature of the toolkit is the ability to write subroutines for each instruction, enabling students to specify micro- operations and observe how the control unit drives instruction execution. To the best of our knowledge, no existing tool provides this level of interactive, customizable CPU design and micro-operation–level simulation. This paper describes the system design, implementation, and educational value of the toolkit as an innovative aid for understanding computer architecture.

Keywords: CPU Architecture, Micro-operations, Educational Toolkit, Android Application

Title: Enhancing Diagnostic Precision: A Deep Learning Approach to Multi-Stage Alzheimer's Classification from MRI

Authors: Rizwan Saddique, Mujtaba Ahmed, Dr.Shoaib Munawar, Touqeer Rashid, Corresponding email: rizwan@biit.edu.pk

Abstract

With over 50 million cases globally, identifying and accurately staging Alzheimer's disease (AD) is critical for timely patient intervention. Current clinical assessments often rely on manual MRI interpretation by radiologists, which is not only time-consuming and costly but also prone to errors. Deep learning presents a compelling pathway toward objective, scalable, and automated classification directly from brain MRIs.In this study, we introduce the Parallel Xception-Attention Encoder (PXAE), an architecture designed specifically for efficient, four-class Alzheimer Disease Classification. By integrating parallel Xception backbones with depth- wise separable convolutions and a multi-head self-attention encoder, our approach effectively captures complex atrophy patterns. This design allows the model to prioritize clinically significant features without the heavy computational cost, which is typically associated with 3D convolutional networks. We evaluated the model using the Kaggle OASIS-processed dataset, assessing its ability to distinguish between Normal, Very Mild, Mild, and Moderate Demented stages. The PXAE demonstrates state-of-the-art classification performance while maintaining high efficiency. Crucially, interpretability analysis confirms that the model correctly focuses on biologically relevant anatomical structures, such as the hippocampus and entorhinal cortex, ensuring that its predictions are transparent and clinically meaningful. These findings show PXAE as a robust and practical tool for automated AD staging in real-world clinical environments.

Keywords: Alzheimer's disease, deep learning, multiclass classification, Xception,

attention mechanism, computational efficiency, OASIS

Title: A Novel AI Framework for Business Analytics and Decision-Making: Empowering SMES for Operational Excellence

Authors: Arvaa Mehmood, Corresponding email: arvaamehmood11@gmail.com

Abstract:

Artificial Intelligence (AI) is transforming business analytics, yet most solutions are designed for large enterprises with abundant resources. This study introduces a novel, lightweight AI framework tailored for small- to medium-sized enterprises (SMEs), enabling actionable, data-driven decision-making without requiring extensive technical infrastructure. The framework integrates predictive modeling, machine learning algorithms, and intelligent automation to convert raw business data into clear, actionable insights. A prototype is planned for development and evaluation using simulated SME datasets, aiming to demonstrate measurable improvements in decision accuracy, resource allocation, and operational efficiency. Distinctively, the framework incorporates ethical AI governance and human-AI collaboration, ensuring decisions are responsible, transparent, and practical for real-world business settings. By bridging advanced AI techniques with accessible, SME-focused solutions, this work not only addresses pressing operational challenges but also paves the way for scalable, sustainable innovation in resource-constrained business environments.

Keywords: Artificial Intelligence (AI), Business Analytics, Decision-Making, Operational Efficiency, Predictive Modeling, Digital Transformation, Responsible AI, Human-AI Collaboration, AI for SMEs

Title: Digital Image Processing in the Era of Artificial Intelligence

Authors: Muhammad Yasir Afridi, Muhammad Tariq, Corresponding email: yasirafridi252@gmail.com

Abstract:

Digital Image Processing has undergone significant transformation with the rapid advancement of Artificial Intelligence technologies. Traditional image processing techniques, which primarily rely on handcrafted features and rule-based algorithms, often struggle to achieve robust performance when dealing with complex, large-scale, and diverse visual data. The integration of AI, particularly machine learning and deep learning methods, has introduced data-driven approaches that enable automated feature extraction, adaptive learning, and improved decision-making capabilities. This paper presents a comprehensive overview of the evolution of digital image processing in the context of artificial intelligence, highlighting key methodologies, recent advancements, and emerging trends. The study discusses how AI-based models enhance core image processing tasks such as image enhancement, segmentation, classification, and object recognition. Furthermore, the paper examines the advantages of AI-driven techniques over conventional methods in terms of accuracy, scalability, and robustness. Challenges including computational complexity, data dependency, and interpretability are also analyzed. By exploring current applications and future research directions, this work emphasizes the growing role of artificial intelligence in shaping next-generation digital image processing systems and provides insights for researchers and practitioners in the field.

Keywords: Digital Image Processing, Artificial Intelligence, Machine Learning, Deep Learning, Computer Vision

Title: The Role of Generative Pre- trained Transformers (GPTs) in Modern Research and Education System.

Authors: Huda Farooq: Corresponding email: hurabkhan121@gmail.com

Abstract:

Generative Pre-trained Transformers (GPTs) have emerged as advanced artificial intelligence models capable of understanding, processing, and generating human-like text with high accuracy. This study examines the growing role of GPT-based systems in modern research, education, and problem-solving environments. The research analyzes the applications of GPTs in academic writing, data analysis, coding assistance, and knowledge discovery, highlighting their contribution to improved efficiency, accessibility, and learning outcomes. Furthermore, this paper addresses key challenges associated with GPT technologies, including ethical considerations, data bias, accuracy limitations, and

the risk of over-reliance on automated systems. A qualitative research methodology is adopted through an extensive review of existing literature and real-world implementations of GPT models across various domains. The findings indicate that GPT-based tools significantly enhance productivity and support learning processes when applied responsibly. However, the study emphasizes the need for clear usage guidelines, ethical frameworks, and continuous human oversight to ensure reliable and responsible adoption of GPT technologies in research and education system.

Keywords: Generative AI, GPT, Artificial Intelligence, Education, Research, Large Language

Models, Ethics, Automation.

Title: Automated Multi-Label Diagnosis of Cardiovascular Diseases from ECG Using a Dilated Residual Inception Network

Authors: Shafqat Ullah, Mujtaba Ahmed, Azeem Mushtaq, Corresponding email: shafqat.ullah@biit.edu.pk

Abstract

Cardiovascular diseases (CVDs) still remain as the number one cause of death in the world today. Thereby stressing the necessity of early and precise detection of vital heart problems like Atrial Fibrillation, Inferior Myocardial Infarction, and Left Ventricular Hypertrophy. The 12-lead electrocardiogram (ECG), though widely utilized for non-invasive heart evaluation, often complicates the task of manual reading under coexisting abnormalities, thus, the demand for trustworthy automated diagnostic infrastructures is raised. The current research presents the innovative DRI-Net (Dilated Residual Inception network) as a deep learning framework devoted to the classification of multi-label ECGs. The fact that conventional convolutional networks do not warm in long-range temporal dependencies is a drawback that DRI-Net bypasses by using a dilated inception module which applies parallel convolutional branches with different dilation rates. Such a system allows the extraction of temporal features at various scales and thus capturing not only the morphology of the waveform in detail but also the patterns of rhythms over a long time. To raise diagnostic relevance to a higher level, Squeeze-and-Excitation attention blocks are attached to adaptively stress the informative channel features linked with clinically important signals. The residual connections enable training to be stable and efficient, while the hybrid pooling method that incorporates global average and max pooling makes the features more robust.

The PTB-XL dataset was used for experimental validation and the results showed that DRI-Net was able to effectively separate overlapping cardiac patterns. This means that DRI-Net can be considered as a scalable and accurate solution for automated clinical decision support systems that are based on ECG.

Keywords: Cardiovascular disease, Deep learning, Arrhythmias Detection, Multilabel

Classification, ECG signals

Title: Sugarcane disease identification using Deep Learning

Authors: Riffat liaqat Corresponding email: riffat@biit.edu.pk

Abstract

About 75% of global sugar production is derived from sugarcane, and hence it is a major crop in agriculture. Sugarcane is also susceptible to numerous diseases, as any other plant can severely impact farm planning and agricultural production. Traditional methods of diagnosing sugarcane leaf illness are often time-consuming, labor-intensive, and error-prone. In this paper, "Sugarcane Disease Identification Using Deep Learning," we present an automated method which employs deep learning methods to enhance the accuracy and velocity of disease identification. We employed the Sugarcane Leaf Dataset which is publicly available and comprises 6748 images labeled in 11 disease categories. Our process included training and testing four convolution neural network (CNN) models: DenseNet-53, GoogLeNet, EfficientNet-b0, and EfficientNet-b1. Both models were evaluated in terms of classification performance and resilience, and the outcomes indicated that both conventional and new CNN designs could readily recognize sugarcane diseases with high accuracy, the most notable being EfficientNet-b1. It is thus concluded that the effectiveness of a model is not simply determined by depth or complexity but also by the trade-off between architecture and data features. Through the utilization of DL (Deep Learning) for disease identification, this work is toward the creation of a rapid, precise, and automated diagnostic system capable of helping farmers and agricultural managers make decisions without delay, minimize crop loss, and enhance total production.

Keywords: Sugarcane leaf diseases, deep learning, DenseNet-53, GoogLeNet, EfficientNet-

b0, EfficientNet-b1, image classification, CNN, precision agriculture, disease detection.

Title: Multimodal Emotion-Cause Pair Extraction Using Temporal Attention and Graph-Based Learning

Authors: Muhammad Mujtaba , Shafqat Ullah Corresponding email: shafqat.ullah@biit.edu.pk

Abstract

Understanding human emotions and identifying their underlying causes remain fundamental challenges in affective computing, particularly in real-world multimodal environments. While existing approaches have achieved reasonable performance in emotion recognition, they often fail to model the complex temporal and causal relationships between emotions and their triggering events. In this study, we present a multimodal framework for emotion–cause pair extraction that leverages temporal attention and graph-based learning to capture intricate interactions across text, audio, and visual modalities. Deep contextual features are extracted using state-of-the-art pretrained models and integrated through an attention-driven fusion mechanism. A graph attention network is employed to model relational dependencies

and prioritize relevant emotion–cause associations over time. The proposed approach enables robust multimodal representation learning and improves the identification of causal emotion pairs in conversational data. Experimental evaluations on bench-mark multimodal emotion datasets demonstrate that the proposed framework achieves competitive and consistent performance compared to existing baseline methods, highlighting its effectiveness for multimodal emotion–cause analysis.

Keywords: Relational dependencies, emotions, graph attention.

Title: Predicting 30-Day Hospital Readmission using Machine Learning and Explainable AI

Authors: Laiba Zafar, Corresponding email: maryam@biit.edu.pk

Abstract

The issue of hospital re-hospitalization with a 30-day period after discharge is a major challenge to the healthcare systems as it leads to higher costs of treatment, use of resources and patient burden. Anticipating readmission risk during discharge would assist clinicians to make suitable decisions and implement preventive strategies. This paper introduces a machine learning-based model of forecasting 30-day hospital readmissions based on the demographic, clinical, and past medical information of the patient. A number of supervised learning models such as Logistic regression, random forest, support vector machine and gradient boosting are developed and tested to determine the best model of prediction. Explainable Artificial Intelligence (XAI) methods like SHAP (Shapley Additive Explanations) and LIME are used to interpret the specific prediction and determine which features among them have the most significant impact on readmission risk. Experimental outcome has shown that ensemble-based models are better predictors than traditional classifiers and XAI techniques are clear and clinically significant. The suggested framework can be used to enhance the accuracy of predictions and the interpretability of the model, which can be implemented in the clinical decision support system to minimize unnecessary hospital readmissions.

Keywords: Machine Learning, Hospital Readmission Prediction, Explainable Artificial Intelligence (XAI), SHAP, LIME, Healthcare Analytics, Clinical Decision Support Systems

Title: Multi-Label Theme-Based Classification of Quranic Verses for Urdu Translations:

A Case Study for Surah Al-Baqarah and Aal-e-Imran

Authors: Rao Muhammad Waseem Ashraf, Dr. Muhammad Arshad Awan, Dr. Muhammad Zeeshan Muzaffar, Afrasiab Kaikobad. Corresponding email: Zeeshan@biit.edu.pk

Abstract

The Holy Quran stands as our timeless source of guidance which explores multiple deep subjects for understanding all aspects of human life and morx`al behavior. The research focuses on the Quranic verses from the Urdu translation of Surah Al-Baqarah and Aal-e-Imran into different themes to help with better topic analysis. The project focuses on creating a list of themes to categorize the Quranic verses by developing machine tools learning and also test the performance by using standard classification measures. Using XLM-Roberta Classifier is the powerful tool model to translate in Urdu language by Junagharri from the Tanzil website, it translates it with standard measure of performance. This model produces the 0.9292 F1 score along with 0.8623 accuracy, 0.9476 precision, and 0.9116 recall rates. The result shows the performance and excellent working when they handling multiple labels for analyzing religious texts. This research provides a detail knowledge to scholars and students of the Quranic verses by different useful tools and open the doors for the progress and progress in using AI for religious studies.

Keywords: Quran, F1-score, XLM-Roberta

Title: A Detection Framework for Malicious Post-Exploitation Attempts Using Trusted Windows Command-Line Tools

Authors: M Danish Hassan, Noor Ul Ain, Corresponding email: noor@biit.edu.pk

Abstract

The Windows Command Line Interface (CLI) is widely used by system administrators to manage system configurations and access native operating system utilities. With the introduction of PowerShell, the Windows CLI has further evolved into a powerful platform for automation, scripting, and administrative control. At the same time, adversaries continuously develop advanced post-exploitation techniques to bypass endpoint security solutions and evade detection. A commonly observed tactic involves the abuse of trusted, built-in Windows utilities to perform malicious activities without introducing external binaries, thereby minimizing interaction with the file system and reducing the likelihood of detection. This research focuses on detecting the malicious misuse of Windows command-line tools and native system utilities frequently leveraged by attackers. The dataset used in this study is derived from the MITRE ATT&CK framework and concentrates on trusted Windows utilities combined with specific command-line arguments that are indicative of malicious intent. The proposed approach analyzes command execution patterns to distinguish legitimate administrative behavior from adversarial activity. The effectiveness of the technique is evaluated using detection rate and false negative rate as performance metrics. Experimental results demonstrate that the proposed method is capable of identifying malicious command executions that are often overlooked or misclassified as benign by traditional security mechanisms.

Keywords: PowerShell Command Detection, Malicious Command-Line Activity, Advanced Persistent Threats, Windows Native Utilities, SysInternals Tools

Title: Hybrid Deep Learning Framework for Imaging-Based and Pattern-Based Lung Cancer Identification

Authors: Rubab Fatima, Sana Liaqat, Laiba Zafar, Corresponding email: Laibazafar0118@gmail.com

Abstract

The lung cancer is one of the major causes of cancer mortality in the world with early identification using the computed tomography (CT) scans significantly increasing patient survival rates. This paper presents a multi-objective detecting deep learning framework that combines the pattern- and entropy-based feature extraction framework with multi-objective detecting to achieve accurate automated lung tumors detection in CT images. The given model takes advantage of the multi-task learning to achieve the simultaneous detection, localization, and malignancy classification of pulmonary nodules, which is further supported by the transfer learning models with Local Gabor Transitional Patterns (LGTrP), Pyramid of Histograms of Oriented Gradients (PHOG), advanced entropy measures, and attention schemes to provide powerful texture analysis. The experimental study on conventional benchmark datasets achieves a higher classification accuracy, fewer false positives, and more subtype differentiation as compared to the conventional radiomics and single-task techniques. This methodology has high potentials of enhancing dependable early screening of lung cancer and aiding in clinical decision-making with promising future extensions to multi-modal data integration.

Keywords: Lung cancer detection, Multi-objective framework, Pattern-based features, Entropy features, CT imaging, Transfer learning

Title: A Hybrid RoBERTa-GNN Framework for Context-Aware and Knowledge-Augmented Sentiment Prediction

Authors: Tashfeen Nazeer, Corresponding email: tashfeennazeer4@gmail.com

Abstract

Sentiment analysis, which is an essential part of Natural Language Processing (NLP), is intended to recognize the emotions and opinions in text using a computer algorithm, which is used to analyze customer comments and track the opinion of the population. Transformer-based models such as BERT and RoBERTa, despite their success, tend to fail to encode implicit sentiments that entail commonsense reasoning, such as sarcasm, idiomatic, or emotionally tricky situations. The current methods usually adhere to either one of the approaches such as either contextual embedding or knowledge augmentation, but seldom combine the two effectively. We will work around these limitations by suggesting a Hybrid RoBERTa-Graph Neural Network (GNN) Framework of context- aware sentiment prediction with knowledge augmentation. RoBERTa offers semantic and syntactic fine-grained embeddings, and the GNN offers inter-concept relations of a commonsense Knowledge Graph. These embeddings are combined together in a special fusion layer that allows reasoning in a richer context and better classification of sentiment. In this work, a hybrid

architecture to bridge between textual representations and external commonsense knowledge, enhance sentiment prediction in linguistically complex situations and offer a framework of interpretable, context-aware analysis is introduced. The effectiveness and stability of the proposed model are proved by experimental assessment showing that it works better than the tradcitional transformer- based and knowledge-augmented models.

Keywords: Sentiment Analysis, RoBERTa, Graph Neural Network (GNN), Knowledge Graph, Context-Aware Learning, Deep Learning.

Title: Neuro-Symbolic Visual Question Answering with Chain-of-Thought Reasoning for Robotic Command Grounding

Authors: Hassan Nazeer Chaudhry, Raja Daniyal Kiyan, Corresponding email: hassan@biit.edu.pk

Abstract

Robotic systems must ground natural language commands in visual scenes while reasoning about object attributes and spatial relations. Existing vision–language models largely rely on end-to-end neural architectures, which often lack interpretability and can produce overconfident errors in safety-critical settings. We propose a command-driven, knowledge- augmented visual reasoning framework that explicitly decomposes a natural language command into an ordered sequence of intermediate reasoning queries. Visual observations are represented as a scene graph and aligned with an external semantic knowledge graph, enabling structured reasoning over objects, attributes, and relations. Answers to intermediate queries are sequentially integrated to maintain a consistent belief state and reduce hallucinations. Experiments on CLEVR and GQA demonstrate improved grounding accuracy, stronger compositional reasoning, and lower hallucination rates compared to neural and neuro-symbolic baselines, highlighting the benefits of explicit, knowledge-aware reasoning for robotic perception.

Keywords: Neuro-Symbolic, Semantic Knowledge Graph, CLEVR, GQA

Title: Phishing Email Detection With Machine Learning Algorithms

Authors: Alia Shoukat, Tayyaba Javed , Saqib Nazir, Corresponding author: Tayyaba@biit.edu.pk, aaliashaukat16@gmail.com

Abstract

Phishing emails are considered one of the greatest serious cybersecurity threats due to the exploitation of human vulnerabilities to leak private data or make compromises to an online infrastructure. Four conventional algorithm include NB, LR, DT, and RF are used in the suggested lightweight ML architecture for phishing email identification. TF-IDF based feature extraction, text normalization, and methodical

data pretreatment are all included. A collection of phishing emails with both positive and negative class labels was used to train and evaluate individual algorithms. The accuracy, precision, recall, F1 score, ROC curve, and confusion matrix will all be used to measure each model's performance. With accuracy levels exceeding 98 percent, outstanding precision, and recall, experimental results demonstrate that RF and LR are the best evaluated models. While the NB model performed good at a very cheap computing cost, the Decision Tree showed good scores and a modest accuracy that was still interpretable. The comparison analysis further demonstrates that the proposed lightweight models performance competitiveness with deep learning based approaches with significantly lower computational resource consumption. Overall, this research highlights the fact that classical machine learning algorithms, when combined with effective preprocessing and TF-IDF representation, form an efficient and practical solution for phishing email detection to suit real time cyber-security applications.

Keywords: cybersecurity, machine learning, email classification, phishing email detection, and zero-day phishing

Title: Multi-Class Classification of Chronic Kidney Disease Risk Using Clinical Features

Authors: Muhammad Fareed, Muhammad Haseeb

Abstract

CKD is a long-term condition that disrupts the system for the removal of waste as well as fluid regulation in the body. Delayed identifications lead to major setbacks in general health conditions. The most essential part of the identification of the level of risk concerning diseases at the very outset plays a very significant role in the timing of clinical procedures as well as a professional boost in the treatment of patients. The research work on the proposed project aims at exploring the implementation of a machine learning method for organizing a multi-class model for classifying the risk levels concerning kidney diseases. The proposed method implements a huge dataset that comprises more than 20,000 patient profiles. The dataset comprises the most diverse collection of variables that consider age, gender, body conditions, medications, as well as laboratory results like Blood Pressure, Anemia, and Inflammations, etc. This preprocessing stage applies the Label Encoder technique that converts the Categorical variables into numeric values. Each unique Label gets an integer. The proposed encoding method helps to allow machine learning models for processing categorical values efficiently that maintain a unique categorical quality. A few machine learning algorithms like Logistic Regression Classifier, Random Forest Classifier, K-Nearest Neighbors (KNN), Support Vector Machine (SVM), and Decision Tree classifier attempt the implementation of a four-class model for classifying the individual's profile into four different classes according to their risk levels as follows: "No Diseases", "Low Risk", "High Risk", and "Severe" classes. These algorithms are chosen in order to compare the different learning approaches in a balanced manner. The results confirm that the proposed model has a prediction

precision rate of 80% and is able to successfully identify the levels of risk concerning the disease as well as extract crucial clinical trends. One of the main aspects of the proposed research work is that machine learning methods have a promising role in serving as a catalyst for the identification as well as risk analysis concerning kidney diseases that has a profoundly promising effect on clinical decision-making.

Keywords: chronic kidney disease, machine learning, multi-class classification, clinical decision support, predictive modeling, early detection.

Predicting 30-Day Hospital Readmission using Machine Learning and Explainable AI

Authors: Maryam Gulshaid

Abstract

The issue of hospital re-hospitalization with a 30-day period after discharge is a major challenge to the healthcare systems as it leads to higher costs of treatment, use of resources and patient burden. Anticipating readmission risk during discharge would assist clinicians to make suitable decisions and implement preventive strategies. This paper introduces a machine learning-based model of forecasting 30-day hospital readmissions based on the demographic, clinical, and past medical information of the patient. A number of supervised learning models such as Logistic regression, random forest, support vector machine and gradient boosting are developed and tested to determine the best model of prediction. Explainable Artificial Intelligence (XAI) methods like SHAP (Shapley Additive Explanations) and LIME are used to interpret the specific prediction and determine which features among them have the most significant impact on readmission risk. Experimental outcome has shown that ensemble-based models are better predictors than traditional classifiers and XAI techniques are clear and clinically significant. The suggested framework can be used to enhance the accuracy of predictions and the interpretability of the model, which can be implemented in the clinical decision support system to minimize unnecessary hospital readmissions.

Keywords

Machine Learning, Hospital Readmission Prediction, Explainable Artificial Intelligence (XAI), SHAP, LIME, Healthcare Analytics, Clinical Decision Support Systems

Abstracts

Applied and Pure Mathematics

Boundary Layer Flow of Non-Newtonian Ellis Model Fluid With Non-Fourier Heat Transfer Over A Variable Thickness Sheet

Safeer Ahmed
safeerahmed.nu@gmail.com

Abstract

This study investigates the onset of natural convection instability in a horizontal porous layer saturated with a shear-thinning Ellis fluid. In the limit of vanishingly small shear stress, the Ellis model reduces to Newtonian behaviour, and the instability threshold coincides with classical results for negligible flow rates. Analytical and numerical analyses are performed to determine the conditions for linear instability. It is shown that, at higher flow rates, even a very small imposed temperature difference is sufficient to trigger convective instability.The study further models physiological flow using an Ellis fluid in a diverging wavy channel, incorporating non-Newtonian effects. A nanofluid composed of gold nanoparticles suspended in blood is considered under a single-phase formulation. The governing equations for heat and mass transfer are derived using the long-wavelength and low-Reynolds-number approximations, leading to closed-form solutions. Electro-osmotic effects are included through the Poisson-Boltzmann equation to account for ionic transport. Numerical results demonstrate strong agreement with limiting cases reported in the literature.

Keywords: Rayleigh–Bénard (natural convection) instability; Ellis fluid; porous medium; non-Newtonian nanofluid; electro-osmotic flow; heat and mass transfer; linear stability analysis.

Some New Exact Solutions of The Space Time Boussinesq and Kdv Fractional Partial Differential Equation

Muhammad Irfan Sharif

mirfanm7487@gmail.com

Abstract
In this research, the Modified Riemann-Liouville derivative is proposed to solve Space Time Boussinesq Fractional Partial Differential Equation, and Jumarie's modified Riemann Liouville derivative is used to convert nonlinear partial fractional differential equation to nonlinear ordinary differential equations. The modified Kudryashov method is applied to compute an approximation to the solutions Of the Space Time Boussinesq Fractional Partial Differential Equation and some Solutions of Space Time Korteweg–de Vries Fractional Partial Differential Equations. As a result, many exact solutions of fractional partial differential equations arising in plasma physics in the sense of the modified Riemann–Liouville derivative.

Keywords: Riemann-Liouville derivative; Boussinesq Fractional Partial Differential Equation; Jumarie's modified Riemann-Liouville; nonlinear partial fractional differential equation; modified Kudryashov method

Mathematical Modeling and Analysis of Energy Sector–Driven Carbon Dioxide Emissions

Asim Shahzad

Abstract

This study focuses on carbon dioxide (CO_2) emissions caused by the energy sector and explains the problem using simple mathematical ideas. The energy sector, which includes electricity generation, fuel consumption, and industrial energy use, is one of the main sources of CO_2 emissions. This research aims to understand how energy production and consumption increase emissions over time. Basic data on energy use and emission levels are analyzed to observe trends and patterns. The study highlights the strong relationship between fossil fuel usage and rising carbon emissions, which contribute to climate change and environmental damage. A mathematical model is developed to describe the link between energy consumption and CO_2 emissions. The model uses variables such as energy demand, emission factors, and growth rates to estimate future emissions. Simple equations and graphs are used to make the analysis clear and easy to understand. The results show that reducing fossil fuel use and improving energy efficiency can significantly lower emissions. This mathematical approach helps policymakers and researchers predict future emission levels and plan effective strategies for sustainable energy development and environmental protection.

Keywords: Mathematical modeling; energy sector; carbon dioxide emissions; fossil fuels; ;renewable energy; energy efficiency; greenhouse gases; climate change; sustainable planning and environmental impact

Artificial-Intelligence-Driven Detection and Control of False Data Injection Attacks in Rheological Systems

Dr. Khurram Javid

khurram@northern.edu.pk

Abstract

MHD nanofluid flows are now more susceptible to cyber-attacks, especially false data injection (FDI) attacks, which can seriously impair system performance and dependability due to the growing integration of cyber-physical components in sophisticated thermal and fluid systems. An AI-driven framework for the detection and control of FDI attacks in MHD non-Newtonian nanofluid systems is presented in this study. For Casson, Carreau, and Maxwell nanofluids, a single mathematical model that takes into account internal heat generation and magnetic effects is created. In order to simulate actual FDI scenarios in sensor and actuator data, cyber-attacks are modelled as time-dependent perturbations injected into important physical parameters. A robust BVP solver is used to numerically solve the resulting nonlinear boundary-layer equations, allowing a comparison of clean, attacked, and regulated flow states. Attack-induced variations in velocity and temperature fields are suppressed via a proportionate feedback control technique. Based on variations in velocity profiles, an Attack Severity Index (ASI) is presented to measure the intensity of an attack. Additionally, skin friction and Nusselt number are used as discriminative parameters to train a machine learning-based detection mechanism that uses a Random Forest classifier to reliably distinguish between normal and compromised system states. Confusion matrix evaluation and ROC analysis support the excellent detection accuracy of the suggested AI model. Overall, the framework integrates

control theory, artificial intelligence, and fluid mechanics to enhance the cybersecurity and resilience of MHD non-Newtonian nanofluid systems.

Keywords: *Non-Newtonian Fluids, Magneto-hydrodynamic, Boundary Layer, Cyber-Security, False Data Injection, Attack Severity Index, Artificial Intelligence.*

Cilia-Controlled Transport of a Nano-Viscous Fluid through Microfluidic Pumping Systems Ventilated by Buoyancy Forces

Ali Ahmed Farooq
COMSATS University Islamabad, Abbottabad Campus

Abstract

In the present work, we consolidate the bio-mimetic applications of ciliary role in the transport systems of a nanofluid flowing under the action of buoyancy force through a vertical channel carpeted with artificial cilia on its inner surface. The effects of nanoparticles in the Newtonian-based fluid are described by the Buongiorno model. The recruitment of tiny-sized cilia on the inner surface of the channel will provide a passive role on the proposed boundary conditions due to cilia motions. The model contains partial differential equations with high nonlinearities, which are converted to a system of equations with ordinary differential equations. For the present nonlinear ordinary boundary value problem, we implement the well-known technique, namely Homotopy Perturbation Method (HPM), for solutions. Accordingly, the series form expressions for the velocity, temperature, and concentration fields are formulated in the wave frame of reference under the assumption of a creeping flow scenario. The graphical results would be an essential part of our presentation.

Theoretical analysis of thermal entrance problem for blood flow: An extension of classical Graetz problem for the Casson fluid model using generalized orthogonality relations

Dr Muhammad Waris Saeed Khan

Abstract

An analysis of the classical Graetz problem is carried out for the case of fluid obeying the Casson constitutive equation. The considered model physically corresponds to the thermal entry flow of blood in a duct. The governing equation for the premeditated problem is investigated by employing the separation of variables approach in conjunction with the MATLAB built-in package bvp4c for the calculation of the eigenvalues and related numerical solution of the eigenvalue problem. The solution is computed for the case of a uniform surface temperature boundary condition for both flat and circular geometries. The axial diffusion and viscous dissipation effects on the temperature field are also taken into account.

The expressions of bulk mean temperature and Nusselt number are presented and discussed in terms of the main effect brought by the yield stress parameter, Peclet number, and Brinkman number. It is found that both local and mean Nusselt numbers for blood enhance considerably with the increase of dimensionless plug radius and Brinkman number. In contrast, the thermal entrance length reduces with the rise of the Peclet number. The results of the present analysis have potential applications in the development of nano fluidic, microfluidic, and bio-medical devices used in haemodialysis and oxygenation.

Keywords*: Graetz problem, non-Newtonian fluid, Casson fluid model, Sturm-Liouville boundary value problem, axial conduction, viscous dissipation, bvp4c*.

Stability Characteristics of MHD-Driven Poiseuille Flow of Al_2O_3 Nanofluids in Cylindrical Geometry

Zakir Hussain

zakiraliabad@gmail.com

Abstract

This research paper comprises the study of nano-fluid, uncertainty of Magneto-hydro-dynamic Poiseuille movement through an impressive transverse magnetic field by the “Chebyshev Collocation Method” in a cylinder. Nano-fluid is an innovative form of heat transfer, made up of nanoparticles that express numerous captivating properties. The particular features of nano-fluid show some unexpected potential for many uses, such as its use of it as a cooling agent in apparatus (exchangers of hotness) of transferring exchanger of heat and electronic coolant structure (ECS). We used nano-particles of aluminum oxide Al_2O_3 in water to investigate the stability of cylindrical flow. To improve the eigenvalue problem by solving the stability equation, we utilize QZ (Qualitat and Zuverlassigkeit). The generalized equation, which was simplified from Naiver- Stokes equation. The numerical Reynolds values, wave speed, and wave number are calculated and demonstrated with the presentation of tables and graphs.

Non-Newtonian fluid flow of the Carreau model with Arrhenius activation energy transfer over variable thicker surface

Shakeela Andleeb

bulbulmalik84@gmail.com

Abstract

This study examines heat and mass transfer in non-Newtonian Carreau fluid flow over a variable-thickness, nonlinearly stretching surface with Arrhenius activation energy. Nanoparticle transport is modeled using the Buongiorno approach, incorporating Brownian motion and thermophoresis effects. The governing nonlinear partial differential equations are transformed into ordinary differential equations using similarity transformations and solved numerically via the Runge–Kutta shooting method in Mathematica. The effects of key parameters, including the stretching index, Prandtl number, Weissenberg number, Schmidt number, and activation energy, on velocity, temperature, and concentration profiles are analyzed. Results

demonstrate the influence of shear-thinning and shear-thickening behaviors on surface drag force, heat transfer, and mass flux.

Keywords: Carreau fluid; Arrhenius activation energy; Variable thickness surface; Non-Newtonian flow; Heat and mass transfer; Buongiorno model.

Impact of Social Media Awareness Campaigns on the Control of Measles Disease: A Mathematical Approach

Asrar Ahmed
aisrar363@gmail.com

Abstract

Social media has become an effective platform for sharing health information with large populations in a short time. This study examines the role of social media awareness campaigns in controlling measles by improving public understanding of vaccination, early symptoms, and preventive measures. Platforms such as Facebook, WhatsApp, Instagram, and X enable health professionals, hospitals, and community leaders to communicate directly with parents and caregivers. Simple messages, short videos, and real-life experiences shared by trusted health sources encourage parents to vaccinate their children on time. The findings show that well-planned social media campaigns can positively influence health behavior when information is accurate, easy to understand, and shared repeatedly by credible individuals. Communities exposed to reliable online health messages respond more quickly during measles outbreaks and demonstrate higher vaccination coverage. This contributes to reduced disease transmission and better public health outcomes. However, the rapid spread of false information on social media can create fear and vaccine hesitancy. Therefore, close collaboration between health authorities, media organizations, and local influencers is essential to ensure accurate communication and support long-term measles prevention.

Keywords: Measles; Vaccination; Social media; Awareness campaigns; Public health communication; Misinformation; Disease prevention.

Thin Film Heat and Mass Transfer Flow over a Porous Inclined Plate with Suction/Injection

Zahid Iqbal
Zahidpakfriend@gmail.com

Abstract

This study examines thin-film heat and mass transfer flow over a porous inclined plate subject to suction and injection effects. Such configurations are widely encountered in thermal engineering, coating technologies, and chemical processing systems. The inclination of the plate and surface porosity significantly influence the

flow structure, thermal distribution, and concentration fields within the thin fluid film. The governing equations for momentum, energy, and mass transfer are formulated by incorporating porous medium effects, suction/injection velocity, and thermal and solutal diffusion. Using appropriate similarity transformations, the nonlinear partial differential equations are reduced to a coupled system of ordinary differential equations and solved numerically. The influence of key parameters, including suction/injection strength, inclination angle, porosity, Prandtl number, and Schmidt number, on velocity, temperature, and concentration profiles is analyzed. The results demonstrate that suction enhances heat and mass transfer rates, while injection thickens the boundary layers, offering valuable insights for optimizing thin film transport processes.

Keywords: Thin film flow; Heat transfer; Mass transfer; Porous inclined plate; Suction/injection; Boundary layer; Similarity transformation; Thermal and solutal diffusion.

Heat and Mass Transfer in Lower Convected Viscoelastic Fluids over a Variable Thickness Sheet

Liaqat Ali
shanikhanxyz@gmail.com

Abstract

This study analyzes heat and mass transfer in the boundary layer flow of a lower convected viscoelastic fluid over a stretching sheet of variable thickness. Such flows are relevant to polymer processing, coating technologies, and other industrial applications involving non-Newtonian fluids. The governing equations for momentum, energy, and concentration are developed using the lower convected viscoelastic model. By applying similarity transformations, the system of nonlinear partial differential equations is reduced to ordinary differential equations and solved using the Homotopy Analysis Method (HAM). The influence of key parameters, including viscoelasticity, sheet thickness variation, Prandtl number, and Schmidt number, on velocity, temperature, and concentration profiles is examined. The results indicate that viscoelastic effects significantly alter flow behavior and boundary layer thicknesses, while variable sheet thickness strongly affects heat and mass transfer rates. The findings contribute to improved understanding and optimization of industrial processes involving complex fluids over non-uniform surfaces.

Keywords: Lower convected viscoelastic fluid; Heat transfer; Mass transfer; Variable thickness sheet; Non-Newtonian fluid; Similarity transformation; Homotopy Analysis Method (HAM).

Mathematical Study on CO_2 Emissions from Transport Sector and their Impact on Global Warming

Muhammad Afzal
muhammadafzal2704@gmail.com

Abstract

This study presents a mathematical analysis of carbon dioxide (CO_2) emissions from the transport sector and their role in global warming. Transport activities such as road vehicles, aviation, and shipping are major sources of CO_2 emissions worldwide. Simple mathematical models are used to estimate emission levels based on fuel consumption, vehicle growth, and travel demand. The study explains how emission trends change over time and highlights the relationship between transport activity and increasing atmospheric CO_2 levels using basic equations and graphs. The results show that rising transport emissions strongly contribute to global temperature increase. Mathematical projections indicate that without effective control measures, emissions from transport will continue to grow and worsen climate change. The study also evaluates the impact of emission reduction strategies such as fuel efficiency, public transport use, and low-carbon technologies. The findings help policymakers understand how mathematical modeling can support planning and decision-making. Overall, this research demonstrates that simple mathematical methods can clearly explain the connection between transport emissions and global warming.

Keywords: CO_2 emissions; transport sector; mathematical modeling; global warming; climate change; fuel consumption; emission trends and sustainable transport.

Mathematical Formulation of Biological Fluid Transportation in a Complex Curved Pump

Seemab Shah (Seemikhan458@gmail.com) and Dr. Khurram Javid (khurram@northern.edu.pk)

Abstract

For the past two-decades, Nano fluids have increased remarked able attention because of their thermo-physical features. Additionally, the Nano fluids have massive applications in medical, chemical, and engineering departments. The current formulation manipulates the peristaltic motion of Nano fluids in a two-dimensional curved channel. The study is completed under creeping phenomena and long wavelength approximations. Additionally, the Debye-Hückel linearization is also employed. The complex nature of sinusoidal waves exists in the boundary walls of the flow channel. In the present analysis, the Buongiornio formulation is used for Nano fluids. The Jeffrey fluid model is preferred in the current study as a viscoelastic fluid due to its both viscous and elastic features. The numerical solution of transformed non-dimensional rheological equations are acheived by using the ND solve technique in Mathematica 10. The graphs of flow features, such as axial velocity, temperature field, mass concentration, heat transfer coefficient, shearing stress tensor, and electric potential function, are plotted. The influence of used parameters, i.e., curvature parameter, ratio of time relaxation to time retardation parameter, thermal Grashof number, local nanoparticle Grashof number, thermal motion parameter, Brownian motion parameter, Prandtl number, Eckert number, volume flow rate, electro-kinetic parameter, and electroosmotic velocity parameter, is

elaborated in detail. The magnitude of mass concentration is enhanced (reduced) by increasing the thermal (Brownian) motion parameter. The magnitudes of the temperature field and mass concentration are enhanced by increasing the Prandtl number and Eckert number. This study gives information on the flow of biological fluids relevant to micro-medical devices, Nano-scale devices, electro-osmotic separation devices, and complex pumps via peristaltic pumping.

Thin Film Heat and Mass Transfer Flow over a Porous Inclined Plate with Suction/Injection

Zahid Iqbal[1]

[1]*The Department of Mathematics, Northern University, Nowshera, Pakistan*
[*]Corresponding author: saeedahmed2473@gmail.com

Abstract

This study examines thin film heat and mass transfer flow over a porous inclined plate subject to suction and injection effects. Such configurations are widely encountered in thermal engineering, coating technologies and chemical processing systems. The inclination of the plate and surface porosity significantly influence the flow structure, thermal distribution, and concentration fields within the thin fluid film. The governing equations for momentum, energy, and mass transfer are formulated by incorporating porous medium effects, suction/injection velocity, and thermal and solutal diffusion. Using appropriate similarity transformations, the nonlinear partial differential equations are reduced to a coupled system of ordinary differential equations and solved numerically. The influence of key parameters, including suction/injection strength, inclination angle, porosity, Prandtl number and Schmidt number, on velocity, temperature and concentration profiles is analyzed. The results demonstrate that suction enhances heat and mass transfer rates, while injection thickens the boundary layers, offering valuable insights for optimizing thin film transport processes.

Keywords: Thin film flow; Heat transfer; Mass transfer; Porous inclined plate; Suction/injection; Boundary layer; Similarity transformation; Thermal and solutal diffusion.

Heat and Mass Flow of Three Elements Viscoelastic Fluid on Variable Thickness Sheet

Saeed Ahmad[1]

[1]*The Department of Mathematics, Northern University, Nowshera, Pakistan*

[*]Corresponding author: saeedahmed2473@gmail.com

Abstract

This study explains the heat and mass flow of a three elements viscoelastic fluid over a variable thickness stretching sheet. Viscoelastic fluids show both liquid flow and elastic behaviour, which makes them useful in polymer and coating industries. The three elements model is selected because it describes fluid relaxation and deformation more clearly than basic fluid models. The sheet thickness is not constant and changes along the surface, which strongly affects the fluid motion. The governing equations for momentum, heat and mass transfer are developed by considering thermal diffusion and concentration effects. These equations describe how velocity, temperature and concentration vary within the fluid. Similarity transformations are used to reduce the equations into simpler ordinary differential equations. Numerical solutions are obtained to study the influence of important parameters such as viscoelastic effects, thickness variation, heat source and mass diffusion. The results show noticeable changes in flow, temperature and concentration profiles. This analysis is helpful for improving industrial processes involving stretching sheets, chemical transport and thermal control using viscoelastic fluids. The findings support better design and efficiency in practical engineering applications today globally.

Keywords : Heat transfer; mass flow; three-elements viscoelastic fluid; variable thickness sheet; boundary layer; velocity distribution; elasticity and viscosity; polymer processing; coating systems.

Abstracts

Education

The Effect of Working Memory Capacity Training on Students Learning Achievement in Mathematics at Secondary Level: A Meta Analytical Review (2020-25)

Aneela Rustam[1], Dr.Safia Begum[2] and Dr. Muhammad Jamil Bajwa[3]

[1]PhD Scholar, Department of Education, Northern University, Nowshera, KPK

[2]Associate Professor in Higher Education Department KPK.
[3]Professor, Department of Education, Northern University,
Nowshera, KPK **Corresponding author:** Email:
jamil.bajwa@northern.edu.pk)

Abstract

This meta-analysis synthesizes empirical research from 2020 to 2025 to evaluate the efficacy of working memory capacity (WMC) training in improving mathematics achievement among secondary-level students. While WMC is a well-established correlate of mathematical competence, evidence for the causal, far-transfer effects of cognitive training on academic outcomes remains contested. Through a systematic review of randomized controlled and quasi-experimental trials from major databases, this study quantitatively integrates findings where WMC training was the independent variable and standardized mathematics performance was the primary outcome. Analyses of pooled effect sizes, conducted with stringent inclusion criteria requiring active control groups, reveal a statistically significant but small and heterogeneous overall effect. The review identifies critical moderators explaining this variability, including training duration and intensity, the type of mathematics outcome assessed (e.g., procedural fluency vs. problem-solving), and participant baseline characteristics. Results indicate that while WMC training can yield measurable gains, its effectiveness as a generalized educational intervention for mathematics is inconsistent and context-dependent. The discussion highlights imperative design features for future research—such as the integration of domain-specific instructional elements within training—and provides evidence-based guidance for educators considering cognitive training interventions. This review clarifies the limited and conditional role of pure WMC training and directs the field toward more integrated approaches for enhancing mathematics learning.

Keywords: *Working Memory Training, Mathematics Achievement, Secondary Education, Cognitive Training, Far Transfer, Meta-Analysis, Academic Intervention, Executive*

Functions, Randomized Controlled Trials.

Perceived Impact of School Leadership Training on School Management: A Qualitative Study of Public Sector Schools in Attock District, Pakistan

Jabeen Kausar Kahut[1] and Dr. Muhammad Jamil Bajwa[2]

[1]PhD Scholar, Department of Education, Northern University, Nowshera, KPK
[2]Professor, Department of Education, Northern University, Nowshera, KPK
Corresponding author: Email: jamil.bajwa@northern.edu.pk)

Abstract

School leadership training is considered essential for improving school management; however, limited qualitative evidence exists regarding its practical impact in district-level contexts of Pakistan. This study addresses this gap by exploring the perceived impact of school leadership training on school management in Attock District. Despite the provision of leadership training programs, challenges related to effective planning, decision-making, staff management, and instructional supervision persist in public schools, indicating a possible disconnect between training and practice. The study aims to understand school heads' perceptions of how leadership training influences their managerial roles and school functioning. A qualitative research design was employed, using semi-structured interviews with trained school heads and senior teachers selected through purposive sampling. Data were analyzed through thematic analysis to identify recurring patterns and meanings. The findings reveal that leadership training is perceived to positively influence school management by enhancing leadership confidence, communication skills, collaborative culture, and problem-solving abilities. However, participants reported constraints such as limited contextual relevance, lack of follow-up support, and systemic challenges that hinder effective implementation. The study recommends the development of context-specific, continuous, and practice-oriented leadership training programs supported by mentoring and monitoring mechanisms to strengthen school management practices in public schools.

Keywords: School leadership training, school management, qualitative study, perceptions, Attock District, Pakistan

The Effectiveness of Math Lab-Based Instruction on Mathematics Achievement at the Secondary Level: A Systematic Review of Empirical Research (2021–2025)

Muhammad Rome[1] and Dr. Muhammad Jamil Bjawa[2]

[1]PhD Scholar, Department of Education, Northern University, Nowshera, KPK [2]Professor, Department of Education, Northern University, Nowshera, KPK **Corresponding author:** Email: jamil.bajwa@northern.edu.pk)

Abstract

This systematic review synthesizes empirical research from 2021 to 2025 to investigate the effectiveness of math lab-based instruction on mathematics achievement at the secondary level. Guided by four specific research questions, the review examines (a) the overall impact of math lab-based instruction on achievement; (b) its comparative effectiveness against traditional, lecture-based teaching methods; (c) student perceptions regarding engagement, motivation, and conceptual understanding; and (d) gender-based differences in its effectiveness. Following established systematic review protocols, peer-reviewed experimental, quasi-experimental, and mixed-methods studies from national and international contexts were identified and analyzed. The collective evidence consistently indicates that math lab-based instruction leads to statistically significant improvements in students' mathematics achievement compared to traditional instruction. Furthermore, the reviewed literature suggests positive student perceptions of the lab-based approach and offers preliminary insights into differential gender impacts. The findings contribute to the growing body of evidence supporting innovative pedagogies in mathematics education and provide valuable insights for educators, curriculum designers, and policymakers seeking to enhance instructional strategies at the secondary level.

Keywords: *Math lab-based instruction, mathematics achievement, secondary education, systematic review, quasi-experimental design, experimental group, control group.*

Teachers' Perceptions and Students' Achievement in the Digital Age: A Systematic Review of Empirical Studies

Rabia Rashid[1] and Dr.Muhammad Jamil Bajwa[2]

[1]PhD Scholar, Department of Education, Northern University, Nowshera, KPK
[2]Professor, Department of Education, Northern University, Nowshera, KPK
Corresponding author: Email: jamil.bajwa@northern.edu.pk

Abstract

The integration of digital technologies in elementary education has expanded rapidly over the past decade, reshaping instructional practices and learning environments. This systematic review investigates the interdependent relationship between teachers' perceptions of digital educational tools and student achievement with a specific focus on elementary mathematics. Teachers' perceptions play a pivotal role in determining how effectively these technologies are adopted and utilized to enhance students' academic achievement. This review argues that teacher perception is the critical mediating variable determining its successful translation into achievement. Peer- reviewed studies (2021 - 2024) were identified through structured searches of academic databases, ERIC, PsycINFO, and Scopus. Following independent screening by two reviewers against predefined criteria and quality appraisal, 35 empirical studies were included for analysis using thematic synthesis and quantitative trend aggregation. Findings indicate that teachers' perceptions of usefulness, ease of use, readiness, and self-efficacy, along with training and institutional support, directly influence integration quality. This, in turn, impacts student achievement, engagement, and conceptual understanding. The review highlights that contextual challenges such as inadequate infrastructure, limited professional development, and digital inequities, as evidenced in contexts like Pakistan, can severely influence positive perceptions and effective implementation. The paper concludes by proposing a perception-to-practice framework, emphasizing that structural support shapes perceptions which steer effective practice. Recommendations include targeted professional development, strategies for equitable access, investment in reliable infrastructure, and the cultivation of a supportive school culture to integrate digital tools

for enhanced learning outcomes.

Keywords: Teacher Perceptions, Student Achievement, Digital Educational Applications, Technology Integration, Mathematics Education, Systematic Review, Elementary Education.

The Effect of Piagetian Based Intervention on Number Conservation Ability at Elementary Level : A Critical Review of Empirical Research (2019-2025) Sabeena Rustam[1], Dr.Safia Begum[2] and Dr. Muhammad Jamil Bajwa[3]

[1]PhD Scholar, Department of Education, Northern University, Nowshera, KPK

[2]Associate Professor in Higher Education Department KPK.

[3]Professor, Department of Education, Northern University, Nowshera, KPK
Corresponding author: Email: jamil.bajwa@northern.edu.pk)

Abstract

This critical review examines empirical research from 2019 to 2025 to assess how contemporary studies have applied and tested Piagetian theory through interventions aimed at developing number conservation in elementary school children. While reaffirming Piaget's foundational observation—that the acquisition of number invariance typically marks the transition to the concrete operational stage—recent literature primarily reveals the conditions of this acquisition. The synthesis demonstrates that success on conservation tasks is highly sensitive to instructional method, with embodied, active-manipulation approaches consistently outperforming passive observation. However, a central critique emerging from this review is the field's pronounced methodological imbalance: a predominance of correlational and descriptive studies that measure stage progression, alongside a stark scarcity of rigorous, controlled trials evaluating structured instructional interventions explicitly designed to teach conservation. Furthermore, despite rapid advances in educational technology, virtually no studies within this period have investigated how tools like Artificial Intelligence (AI) could scaffold Piagetian learning principles to personalize the development of logical reasoning. This review concludes that while Piaget's construct retains robust descriptive power, its translational potential remains underexploited. It calls for a paradigm shift from descriptive validation to interventional innovation, arguing that the integration of multidisciplinary approaches and intelligent tutoring systems represents a vital frontier for bridging classic developmental theory with contemporary educational practice.

Keywords: *Piagetian-Based Intervention, Number Conservation, Concrete Operational Stage, Cognitive Development, Elementary Mathematics, Instructional Intervention, Critical Review, Embodied Cognition, Educational Technology, Intervention Research.*

The Impact of Task-Based Language Teaching on Secondary School Students' English Comprehension and Writing Skills: A Systematic Review of Empirical Research (2021–2025)

Yusra Noor Hussain[1] and Dr. Muhammad Jamil Bajwa[2]

[1]PhD Scholar, Department of Education, Northern University, Nowshera, KPK
[2]Professor, Department of Education, Northern University, Nowshera, KPK
Corresponding author: Email: jamil.bajwa@northern.edu.pk)

ABSTRACT

The global shift toward communicative language teaching has heightened interest in Task-Based Language Teaching (TBLT) as a pedagogical alternative. This systematic review synthesizes empirical evidence from 2021 to 2025 on the effectiveness of TBLT for enhancing English comprehension and writing skills at the secondary level. Following PRISMA guidelines, systematic searches of ERIC, Scopus, and PsycINFO were conducted. After screening, 48 experimental, quasi-experimental, and mixed-methods studies from diverse ESL/EFL contexts were included and assessed for methodological quality. A thematic synthesis of findings reveals a strong pattern: TBLT is consistently associated with improvements in reading/listening comprehension and in writing fluency and coherence, compared to traditional instruction. Improvements in grammatical accuracy were more modest and context-dependent. Effectiveness was most pronounced when tasks were cognitively engaging, well-sequenced, and supported by clear pedagogical scaffolding. Beyond linguistic gains, the review identifies consistent positive effects on learner motivation and autonomy. However, successful implementation is closely tied to teacher readiness and institutional support. The review concludes that TBLT represents an evidence- supported framework for developing key language skills, but its integration requires targeted teacher professional development and curricular adaptation, particularly in exam-oriented contexts. Recommendations for practice and future research are provided.

Keywords: *Task-Based Language Teaching, English Comprehension, Writing Skills, Secondary Education, Systematic Review, ESL/EFL.*

Gender Difference in Digital Burnout, Cognitive Functioning, and Academic Performance of University Students

Aneela Naz, Tehreem Fatima and Dr. Muhammad Iqbal Majoka

[1]PhD Scholar, Department of Education, Northern University, Nowshera, KPK

[2]MPhil scholar, The University of Lahore.

[3]Professor, Department of Education, Northern University, Nowshera, KPK

Corresponding author: Email: iqbal@northern.edu.pk

Abstract

Exploring gender differences in using digital technologies in education and the related factors may help understand their learning and mental well-being. This study was conducted to find out the differences between male and female university students in screen time while using digital technologies, and related factors like digital burnout, cognitive functioning, and their academic performance. The objectives of the study were: i) To find out the difference in screen time between male and female students at university level; ii) To examine the difference of digital burnout between male and female students; iii) To depict gender difference of cognitive failure among university students, and iv) To examine the difference of academic performance between male and female students. For collecting data, a questionnaire having four parts (demographic information, digital burnout scale, cognitive functioning scale, and academic performance scale) was administered to 341 (153 male and 188 female) students of the three public sector universities of the Hazara division, KP. The analyzed data revealed that there was no significant difference between male and female students regarding screen time frequency, digital deprivation, digital aging, digital exhaustion, and overall digital burnout. However, female students had slightly higher cognitive failure than male students, but the difference was not significant. Furthermore, male students had significantly higher scores in academic performance than female students. The findings of this study have important implications for university academia and students.

Keywords: *Screen time, digital burnout, digital deprivation, digital aging, digital exhaustion, cognitive failure, academic performance.*

Impact of Digital Burnout on Cognitive Functioning and Academic Performance of University Students

Misbah Bukhari,Tehreem Fatima and Dr. Muhammad Iqbal Majoka

[1]PhD Scholar, Department of Education, Northern University, Nowshera, KPK

[2]MPhil scholar, The University of Lahore.

[3]Professor, Department of Education, Northern University, Nowshera, KPK

Corresponding author: Email: iqbal@northern.edu.pk

Abstract

The use of digital technologies in education can have both positive and negative impacts on students' learning and mental well-being. The current study was focused on finding the impact of technology-related factors, such as students' psychological health, on their academic performance. The objectives for this study include: i) To assess university students' digital burnout, cognitive functioning failure, and academic performance; ii) To find out correlation among digital burnout, cognitive failure, and academic performance of the university students;

iii) To examine the impact of digital burnout on the cognitive failure, and academic achievement of university students, and iv) To depict the impact of cognitive failure on the academic performance of university students. A sample of 341 BS-level students was selected from three universities (Hazara University, Abbottabad University of Science and Technology, and University of Haripur) using a convenience sampling technique. A questionnaire having four components (demographic information, digital burnout scale, cognitive functioning scale, and academic performance scale) was used for collecting data from sample students. The collected data were analyzed using frequency, percentage, correlation, and regression analysis. The findings of the study indicated that digital burnout has a significant impact on students' cognitive failure and academic performance. Similarly,

cognitive failure has a significant impact on students' academic performance. The study suggested very important measures to minimize digital burnout and avoid cognitive failure among university students.

Keywords: *Digital burnout, university students, cognitive failure, academic performance.*

Effect of Activity-Based Learning (ABL) on Students' Learning Process at Primary School Level: A Systematic Review

Hina Said[1] and Dr. Muhammad Iqbal Majoka[2]

[1]PhD Scholar, Department of Education, Northern University, Nowshera, KPK
[2]Professor, Department of Education, Northern University, Nowshera, KPK
Corresponding author: Email: iqbal@northern.edu.pk)

Abstract

Activity-Based Learning (ABL) has emerged as an effective pedagogical approach at the primary level, emphasizing active student engagement, experiential learning, and learner-centered instruction. This paper presents a comprehensive review of existing literature (2015-2025) on Activity-Based Learning and examines its role in enhancing cognitive, social, and emotional development among primary school learners. Drawing on constructivist learning theories, the review highlights how ABL encourages children to learn through hands-on activities, collaborative tasks, problem- solving, and real-life experiences rather than passive reception of information. The literature indicates that Activity-Based Learning significantly improves students' conceptual understanding, motivation, creativity, and retention of knowledge while also fostering critical thinking and communication skills. Furthermore, ABL has been found to support inclusive education by accommodating diverse learning styles and abilities, making learning more meaningful and enjoyable for young learners. However, the review also identifies challenges in the effective implementation of ABL, including inadequate teacher training, time constraints, large class sizes, and limited instructional resources. The paper concludes by emphasizing the need for continuous professional development for teachers and institutional support to successfully integrate Activity-Based Learning into primary education. This literature-based study aims to contribute to the existing body of knowledge by synthesizing research findings and providing insights for educators, curriculum designers, and policymakers to strengthen teaching-learning practices at the primary level.

Keywords: *Activity-based learning, Primary school students, Learning process,*

Motivation,

Creativity, Problem-solving.

From Classroom Gestures to Intelligent Animation: Reimagining Total Physical Response through AI-Driven Pedagogy

Quratul Ain Ali[1] and Prof. Dr. Muhammad Iqbal Majoka[2]

[1]PhD Scholar, Department of Education, Northern University, Nowshera, KPK
[2]Professor, Department of Education, Northern University, Nowshera, KPK
Corresponding author: Email: iqbal@northern.edu.pk)

Abstract

Total Physical Response (TPR) is a well-known language teaching method that helps learners understand a new language through actions and movement. Traditionally, TPR depends on teachers using gestures and physical demonstrations in the classroom. However, this approach can be limited by teacher fatigue, inconsistent gestures, and the need for physical presence. With recent developments in artificial intelligence (AI) and educational animation, TPR can be redesigned in more flexible and engaging ways. This paper explores how AI-driven animated characters can be used to demonstrate actions, provide instant feedback, and adjust lessons according to learners' responses. These intelligent animations follow the basic principles of TPR while making learning more consistent and scalable. AI-based TPR can also support young learners and students with special learning needs by providing clear, repeatable, and engaging instruction. By combining traditional TPR with modern AI technology, this study shows how language teaching can become more accessible, effective, and suitable for future classrooms. This study proposes very innovative AI-based strategies to address the challenges of teaching students with special needs.

Keywords: *Total physical response strategy, Artificial intelligence, AI-supported total physical response strategy, students with special needs, learning language.*

Effect of Parental Involvement on Academic Achievement of Secondary Level Students: A Meta-Review of Recent Research (2021-2025)

Shehla Naeem[1] and Dr. Muhammad Iqbal Majoka[2]

[1]PhD Scholar, Department of Education, Northern University, Nowshera, KPK [2]Professor, Department of Education, Northern University, Nowshera, KPK **Corresponding author:** Email: iqbal@northern.edu.pk)

Abstract

Parental involvement in education has been recognized as a crucial factor in student academic success. Due to its vital nature, various studies have been conducted on the cause-and-effect relationship between parental involvement and students' academic achievement. In the presence of excessive literature and research on this area, it was considered imperative to explore recent trends, patterns, and gaps through a higher-level synthesis of research findings. Hence, the present study examines the effect of parental involvement on the academic achievement of secondary school students through a meta-review of the recent studies (2021-2025). Predetermined criteria were used to select systematic reviews and meta-analyses studies conducted on parental involvement and academic achievement during 2021-2025, and the findings of these studies were synthesized using a systematic meta-review approach. A mixed-method synthesis based on a combination of descriptive quantitative analysis and qualitative analysis was used to analyze data, which helped to identify research trends as well as conceptual patterns and outcomes. The meta-review revealed a consistent trend of a positive relationship between parental involvement and secondary school students' academic achievement. Parental involvement in terms of academic monitoring, collaboration and communication with the school, and a supportive learning environment at home emerged as stronger contributors to the students' academic achievement. The meta-review also revealed variation in terms of methodological approaches and forms of parental involvement across different cultures. However, there appeared lack of longitudinal perspectives, and scarce differentiation between the different forms of parental involvement in the studies from developing countries. The meta-review provides insights about knowledge gaps for future studies, policy measures for enhancing the academic performance of learners at the secondary school level through parental involvement, and school-family collaboration.

Keywords: Parental involvement, parents-teacher meetings, Student achievement, Supportive home environment, Family engagement

Effectiveness of Gamification Learning Strategy on Students' Academic Achievement in English at the Elementary Level

Amir Zeb[1], and Dr. Muhammad Basharat[2]

[1]PhD Scholar, Department of Education, Northern University, Nowshera, KPK

[2]Assistant Professor, Northern University, Nowshera, KPK
Corresponding author: Email: basharat@northern.edu.pk

Abstract

This study examined the effectiveness of a gamification learning strategy on students' academic achievement in the subject of English at the elementary level. The research specifically investigated the effect of gamified instruction on students' academic performance in English and explored whether any gender-based differences exist in academic achievement between students taught through gamification and those taught through traditional instructional methods. The null hypothesis assumed that the use of gamification does not have a significant effect on students' academic achievement in English at the elementary level. A quantitative research methodology was employed using a quasi-experimental pre-test/post-test control group design. The sample was consisted of elementary school students divided into two groups: an experimental group receiving gamified English instruction and a control group receiving traditional English instruction. Data was collected through pre-tests and post-tests designed to measure students' academic achievement in English. The primary research instrument was a self-developed English language achievement test, whose validity and reliability was established through expert review and pilot testing. Additional teacher-developed assessments aligned with the English curriculum was also be utilized to support achievement measurement. Data analysis was conducted using appropriate statistical techniques, including independent sample t-tests to compare the academic achievement of the experimental and control groups, and ANOVA to examine differences between pre-test and post-test scores within and across groups. The findings of this study showed that the gamification as an instructional strategy improved students' academic achievement in English at the elementary level. The results will offer valuable implications for teachers, curriculum developers, and policymakers by highlighting the potential of gamified instruction to enhance learning outcomes. Furthermore, this study will contribute to the existing body of literature on gamification in education and support informed decision-making in the integration of innovative teaching strategies in elementary English language classrooms.

Keywords: *Gamification, Academic Achievement, English Language Learning, Elementary Education.*

Effectiveness of Small Group Discussion Strategy on Students' Academic Achievement in Pakistan Studies at the Secondary Level

Shabir Ahmad[1], Dr. Muhammad Basharat[2]

[1]PhD Scholar, Department of Education, Northern University, Nowshera, KPK

[2] Assistant Professor, Department of Education, Northern University, Nowshera, KPK
Corresponding author: Email: basharat@northern.edu.pk

ABSTRACT

This study examined the effectiveness of the small group discussion (SGD) strategy on students' academic achievement in the subject of Pakistan Studies at the secondary school level. The research specifically investigated the effect of small group discussion–based instruction on students' academic performance in Pakistan Studies and explored whether any differences exist in academic achievement between students taught through the small group discussion strategy and those taught through traditional lecture-based instructional methods. The null hypothesis assumed that the use of the small group discussion strategy does not have a significant effect on students' academic achievement in Pakistan Studies at the secondary level. A quantitative research methodology was employed using a quasi-experimental pre-test/post-test control group design. The sample was consisted of secondary school students divided into two groups: an experimental group receiving instruction through the small group discussion strategy and a control group receiving instruction through traditional teaching methods. Data was collected through pre-tests and post-tests developed to measure students' academic achievement in Pakistan Studies. The primary research instrument was a self-developed Pakistan Studies achievement test, the validity and reliability of which was established through expert review and pilot testing. Additional teacher-developed assessments aligned with the prescribed curriculum was utilized to support achievement measurement. Data analysis was conducted using appropriate statistical techniques, including independent sample t-tests to compare the academic achievement of the experimental and control groups and analysis of variance (ANOVA) to examine differences between pre-test and post-test scores within and across groups. The findings of this study are showed that the small group discussion strategy enhanced students' academic achievement in Pakistan Studies at the secondary level. The results will offer valuable implications for

teachers, curriculum developers, and policymakers by highlighting the instructional value of collaborative and student-centered learning strategies.

Keywords: *Small Group Discussion Strategy, Academic Achievement, Pakistan Studies, Secondary Education*

The Impact of Social Media on Students' Academic Achievement (A peer reviewed related researches)

Kinza Jabeen[1] and Prof. Dr. Javaid Iqbal Awan[2] [1]PhD Scholar, Department of Education, Northern University, Nowshera, KPK [2]Professor, Department of Education, Northern University, Nowshera, KPK

Corresponding author: Email: javaid@northern.edu.pk)

Abstract

Social media has rapidly transformed communication and information-sharing practices worldwide and has become an inseparable part of students' daily routines. A growing body of literature indicates that social media platforms such as Facebook, WhatsApp, YouTube, and Instagram can play a supportive role in learning by facilitating peer interaction, collaborative learning, and access to educational resources. However, several studies also report negative consequences, including distraction, addiction, reduced study time, and declining academic performance. Although previous research has explored the relationship between social media use and academic achievement, limited attention has been given to examining both academic and non-academic usage patterns of social media. Social media apps like Facebook, Instagram, TikTok, and Snapchat are very popular with students today. Many students use them every day. But do they help or hurt school grades? Some studies show bad effects. For example, one study by Junco in 2012 found that students who spend a lot of time on Facebook get lower grades. Their GPA drops by 0.1 to 0.5 points. Why? Social media distracts them. They check posts instead of studying. Another study by Rosen and friends in 2013 said multitasking with phones makes it hard to focus. Students learn less and forget more.Other studies show good effects too. Greenhow and Lewin in 2016 found that social media helps students work together. They share ideas in group projects. It makes learning fun and keeps them interested. A study in 2020 by Dindar said short use of social media can help find homework help online.But most big reviews say the bad effects win. Huang's 2017 study looked at 28 papers. It found heavy use hurts grades overall. A 2022 meta-analysis by Marker also agreed. Too much scrolling cuts sleep and study time.In the end, social media is not all bad or all good. It hurts when students use it too much during class or homework. It helps when used for schoolwork only. Teachers and parents should teach good habits. Like, set time limits and use apps for learning groups. This way, students can do better in school.

Keywords: *Social Media, Academic Achievement, Secondary school Student, Educational Use, Non Academic Use, Learning Outcome, Academic Engagement.*

An Appraisal of the School-Based Assessment (SBA) Tools at Elementary Level: An Evaluation of Related Researches

Musarrat Bibi[1] and Prof. Dr. Javaid Iqbal Awan[2]

[1]PhD Scholar, Department of Education, Northern University, Nowshera, KPK
[2]Professor, Department of Education, Northern University, Nowshera, KPK
Corresponding author: Email: javaid@northern.edu.pk)

Abstract

School based assessment refers to the systematic evaluation of students' knowledge, skills and attitudes by teacher's Carried out throughout the academic year. School based assessment supports continuous, fair and meaningful evaluation of students. It promotes learner centered education. School-Based Assessment (SBA) has been progressively adopted in school education department Pakistan (KP) to encourage continuous, formative, and learner-centered assessment. The prime objective of this study is to analytically appraise the design, usefulness, and application of SBA tools used for assessing English at the elementary level. This study combines findings from existing observed studies, policy pamphlets, and assessment reports to examine all dimensions of SBA, including alliance with learning outcomes, rationality, validity and reliability of assessment tools. The study of the related literature indicates that SBA tools have been seen as an effective instrument to increase communicative capability, student's motivation, and all-inclusive linguistic skills. After going through the relevant researches it was transpired that as long as the implementation of the SBA tools in KPK is concerned: there was an inconsistent application of the SBA tools. Resultantly effectiveness of the SBA tools was deteriorated. Their usefulness is often constrained by inconsistent implementation, limited teacher training and subjective grading practices. The review also highlights gaps in standardization, particularly in measuring listening and communication skills. The study emphasizes the need for structured backgrounds, continuous professional development for teachers, and full-bodied quality reassurance measures to reinforce the credibility and effectiveness of SBA in elementary education in KP. The review identify recommendations for strategy modification, tool refinement, and forthcoming research to enhance SBA practices and ensure impartial and significant assessment outcomes.

Keywords: *School based assessment (SBA), Elementary English Education, Meta-Review, Formative Assessment, Language Acquisition*

A Critical Review of the Researches on Effectiveness of Collaborative Learning at Primary Level in KPK

Nighat Bibi[1] and Prof. Dr. Javaid Iqbal Awan[2]

[1]PhD Scholar, Department of Education, Northern University, Nowshera, KPK
[2]Professor, Department of Education, Northern University, Nowshera, KPK
Corresponding author: Email: javaid@northern.edu.pk)

Abstract

Collaborative study learning is an instructional approach where students work together in small groups to achieve shared academic goals. They share ideas help each other understand concepts and solve problems collectively. Collaborative learning in Pakistan is a growing students centered approached gaining traction in schools, moving beyond traditional lecturing to boost engagement critical thinking and skills. It shows significant positive impacts on student's achievement in subject like science and English through implementation challenges exist, requiring teachers training and structured strategies for effective integration. This review critically examines research on collaborative learning strategies at the primary education level, Khyber Pakhtunkhwa (KPK) province of Pakistan. Such as Khan & Fatima (2020), and Rehman (2022), demonstrate that structured collaborative methods—including group discussions, peer teaching, and cooperative tasks—positively influence students' motivation and foster interactive, supportive classroom environments. These findings highlight the role of collaboration in improving student participation, peer relationships, and academic engagement, in KPK constrained educational settings. The study further emphasizes that collaborative learning cultivates responsibility, enhances social skills, and promotes active involvement in learning processes, aligning with broader trends in national educational theory. However, regional challenges such as teacher training gaps, underdeveloped infrastructure, and cultural attitudes toward traditional pedagogies necessitate tailored implementation strategies to fully leverage these benefits. The review underscores the importance of integrating collaborative learning into the province's curricula to cater the needs of students in primary education and prepare students for future collective endeavors.

Keywords: *Collaborative Learning, Primary Education, Student Engagement, Khyber Pakhtunkhwa (KPK), Pakistan, Peer Teaching, Cooperative Tasks, Educational Development.*

The Impact of Gamification Method in Enhancing Learning Outcomes in Primary Education. A Contextual Analysis of Khyber Pakhtunkhwa, Pakistan

Rizwana Zardad[1] and Prof. Dr. Javaid Iqbal Awan[2]

[1]PhD Scholar, Department of Education, Northern University, Nowshera, KPK [2]Professor, Department of Education, Northern University, Nowshera, KPK **Corresponding author:** Email: javaid@northern.edu.pk)

Abstract

Gamification is comparatively a new pedagogical method of learning as an element of game for learning to inspire, motivate and make learning result oriented and easy for students. This study examines the application of gamification principles to improve educational achievements in primary schools across Khyber Pakhtunkhwa (KP), Pakistan. Primary level education in KP is facing low enrollment, financial resources scarcity, and weak infrastructure, which pose significant hurdles to educational progress. Utilizing a systematic literature review approach, the analysis incorporates quasi-experimental and qualitative research designs from various Pakistani regions to assess gamification's effectiveness. For example, studies by Saiyida Masooma Jafari, Dr. Aabida Lateef, and Dr. Muhammad Imran Yousuf reveal observable gains in mathematical skills ($p < 0.05$) in Punjab and Islamabad Capital Territory, with gamified groups showing 15- 20% higher levels of participation and knowledge retention through features like scoring systems and achievement icons compared to non-gamified counterparts. Results demonstrate that gamification fosters learner drive, conceptual clarity, and overall academic success, especially in under-resourced rural and post-conflict zones of KP. Nevertheless, obstacles including insufficient educator preparation limit its rollout. To counter these, the study recommends specific measures: adopting affordable, non-digital gamification strategies (e.g., classroom reward charts and group challenges); embedding gamification training in professional development for teachers; and incorporating it into provincial education policies to tackle the approximately 4.9 million children out of school in KP (as reported by the Pakistan Institute of Education), thereby advancing fair learning opportunities in line with global sustainability objectives. Overall, this review highlights gamification's capacity to address engagement shortfalls and elevate performance in KP's primary education system, backed by contextually relevant data. In short experts may develop a lot of formal and informal game elements with very low cost to coup with financial problems and low enrollment and lack of interest among students at primary level in KP.

Keywords: *Gamification principles, primary schooling, educational achievements, Khyber*

Pakhtunkhwa, Pakistan, learner participation, systematic review, quasi-experimental design

An Appraisal of National Researches on the Effectiveness of Flipped Classroom Strategies at Secondary Level Academic Achievement in Pakistan

Saadia Bukhari[1] and Prof. Dr. Javaid Iqbal Awan[2]

[1]PhD Scholar, Department of Education, Northern University, Nowshera, KPK [2]Professor, Department of Education, Northern University, Nowshera, KPK **Corresponding author:** Email: javaid@northern.edu.pk)

Abstract

The Flipped Classroom Strategy (FCS) has gained significant momentum in secondary education as a means to foster student-centered learning. By shifting direct instruction to a self-paced pre- class phase. FCS aims to optimize classroom time for active learning and higher-order cognitive tasks. This study evaluates contemporary national researches to determine the overall impact of the flipped classroom model on the academic performance of secondary school students. It further examines the variables that influence the effectiveness of this pedagogical shift. A systematic review approach was employed, synthesizing data from peer-reviewed studies published between 2023 and 2025. The evaluation categorized findings based on subject matter (STEM vs. Humanities) and geographic regions. Recent findings confirm that the flipped classroom model consistently improves academic achievement by enhancing student self-efficacy and reducing cognitive load through flexible, independent pre-class learning. Studies highlight that the strategy is particularly effective in STEM subjects, where it fosters higher-order thinking and problem- solving skills. Furthermore, success is increasingly linked to the quality of digital engagement tools and the teacher's ability to facilitate active, rather than passive, classroom sessions. The Flipped Classroom Strategy is an effective instructional model for improving secondary academic outcomes worldwide. Its success is not solely dependent on the use of technology but on the quality of active learning sessions. To maximize its achievements, the policy makers take into account for technological gaps and providing specialized training for the educators to shift from lecturers to facilitators. Educational institutions should prioritize professional development that trains teachers to facilitate active inquiry rather than just recording lectures, ensuring the focus remains on high-quality in-class engagement. Additionally, government must implement targeted initiatives to provide equitable technology access and digital literacy support to students from disadvantaged backgrounds to bridge the gaps.

Keywords: *Flipped Classroom (FCS), Secondary Education, Academic Achievement, STEM Education, Active Learning.*

Exploring the Relationship between Professional Development and Teacher Performance: An evaluation of review of related researches

Mubashir Ahmed[1] and Dr. Muhammad Naeemullah[2]

[1]PhD Scholar, Department of Education, Northern University, Nowshera, KPK

[2]Dean, FASS, Northern University, Nowshera, KPK
(**Corresponding author:** Email:
naeemullah@northern.edu.pk

Abstract

This review explores the relationship between professional development and teacher performance, analyzing how various Professional Development programs influence teaching effectiveness and, consequently, student outcomes. Recognizing the pivotal role of teacher quality in educational success, the study examines how diverse Professional Development methods such as mentorship, workshops, and collaborative learning impact teaching practices. Previous systematic reviews of research have demonstrated small but consistent positive effects of Professional Development on student achievement, especially in terms of improved test scores. This study proposes a new framework for effective Professional Development, which integrates multiple causally active components aimed at enhancing teachers' knowledge, teaching strategies, goals, and classroom practices. Researcher evaluated available researches about the core elements of this framework and found that its effectiveness is significantly shaped by factors such as content relevance, delivery methods, and the quality of implementation. Challenges like limited support systems, lack of sustainability, and inconsistent evaluation methods underscore the need for well-structured, evidence-driven professional learning models. Professional development programs should be customized to address the specific needs and challenges of teachers, focusing on subject- relevant content for greater impact. A combination of in-person, online, and hybrid delivery methods enhances accessibility and engagement. Professional Development programs must be implemented consistently and with high quality, supported by ongoing monitoring and adjustments. Continuous support, including follow-up workshops and peer collaboration, is essential for long-term effectiveness. Regular evaluation of Professional Development programs is necessary to assess their impact on teacher performance and student outcomes. Promoting teacher collaboration through mentorship and professional learning communities fosters a culture of shared growth. Finally, Professional Development initiatives should be designed for sustainability by ensuring adequate resources, support, and a commitment to ongoing professional development.

Keywords: *Professional Development, Teacher Performance, Teacher Training, Student Achievement, Instructional Practices, Educational Reform, Teacher Effectiveness,*

Implementation Fidelity.

Assessing the Role of Organizational Commitment in Enhancing Secondary School Teachers' Performance

Muddasir Hayat[1], Ali Nigar[2] and Dr. Muhammad Naeemullah[3]

[1]Ph.D scholar, department Education, Northern University, Nowshera, KPK

[2]Ph.D scholar, Department Education, Northern University, Nowshera, KPK

[3]Dean, FASS, Northern University, Nowshera, KPK **Corresponding Author** (**Email: naeemullah@northern.edu.pk**)

Abstract

This study examines the role of organizational commitment in enhancing the performance of female secondary school teachers. In the context of an increasingly demanding educational environment, female teacher's commitment to their school is a critical factor influencing the effectiveness of teaching and student outcomes. The primary objective of the study was to assess the relationship between organizational commitment and the performance of female teachers in the classroom. The study's population included all female government secondary school teachers in the Abbottabad District, with a sample of 120 female teachers selected using random sampling. Data from public secondary school teachers were analyzed using SPSS software. The findings revealed that higher levels of organizational commitment among female teachers were positively associated with improved classroom performance and better student achievement. Female teachers indicated that there was a significant correlation between their age, qualifications, and experience, and their level of organizational commitment. Moreover, a strong positive relationship was found between organizational commitment and teaching performance, particularly in relation to female teachers' age, experience, and qualifications. Based on these findings, it is recommended that schools management implement organizational commitment programs, such as professional development workshops, team-building activities, and recognition initiatives, to strengthen female teachers' commitment and enhance their classroom performance. This research provides valuable insights for school administrators, female teachers, policymakers, and educational researchers, planners looking to improve female teaching effectiveness through better organizational support and female teacher's engagement.

Keywords: Female teachers, organizational commitment, female teacher performance, secondary school teachers, classroom effectiveness, female teacher's engagement, professional development, qualifications, experience, female teacher motivation

Mentorship of Novice Nurses in Contemporary Nursing Practices: A Literature Review (2013-2025)

Rehmatullah[1] and Dr. Muhammad Naeemullah[2]

[1]PhD Scholar, Department of Education, Northern University, Nowshera, KPK

[2]Dean, FASS, Northern University, Nowshera, KPK

Corresponding author: Email: naeemullah@northern.edu.pk)

Abstract

Novice nurses during their first year of employment encounter many challenges, notably role development, workplace socialization, and acquiring clinical competency. In Pakistan, novice nurses often face these challenges, which compromise nurse retention and care quality. Structured Mentorship facilitates role transition and helps novice nurses' competence. The study aims to examine the effect of mentorship on novice nurses. Published studies were reviewed, and studies to understand how formal mentorship helps new and early-career nurses. The review included available included quantitative and mixed-method studies matching the inclusion criteria. These studies concluded that there was statistically significant, medium-to-large effects of mentorship. Evidence revealed that mentorship was associated with reduction in intent to leave jobs. Moreover, the transition shock and burnout scores were significantly lower, and job satisfaction was higher. The clinical competence scores were significantly higher in mentored groups. It was also concluded that mentorship effectiveness is associated with mentor training, protected mentoring time, and program duration longer than six months. Nurse mentorship is an effective approach that significantly enhances workforce solidity, professional growth, and clinical competence. Structured mentorship programs should be an essential administrative priority to support and sustain the nursing workforce.

Keywords: *Mentorship, clinical competence, Novice Nurses, job satisfaction, workforce retention, meta-analysis*

Advancing Conceptual Mastery in Secondary Chemistry Using Intelligent Tutoring Systems: A Pedagogical Insight

Sadaf Ambreen[1], Saqib Imran[2] and Dr. Muhammad Naeemullah[3]

[1]PhD Scholar, Department of Education, Northern University, Nowshera, KPK [2]M.Phil. Scholar, Department of Education, Northern University, Nowshera, KPK [3]Dean, FASS, Northern University, Nowshera, KPK
Corresponding author: Email: naeemullah@northern.edu.pk)

Abstract

Achieving deep conceptual understanding in secondary school chemistry presents a significant challenge, largely due to the abstract nature of chemical concepts, the symbolic language of chemical processes, and the reliance on teacher-centered teaching methods. Traditional lecture- based approaches often focus on procedural problem-solving and rote memorization, which hinder students' ability to build meaningful conceptual frameworks and contribute to widespread misconceptions. Recent advancements in Artificial Intelligence (AI) have led to the development of Intelligent Tutoring Systems, which offer personalized learning experiences, adaptive feedback, and continuous formative assessments. This paper examines the potential of Intelligent Tutoring Systems to improve conceptual mastery in secondary chemistry, offering a pedagogical perspective grounded in constructivist learning theory. It explores how Intelligent Tutoring Systems can foster active learning, accommodate diverse learner needs, and promote conceptual change through inquiry-based interactions. The paper also outlines the instructional advantages of Intelligent Tutoring Systems, discusses challenges related to their implementation, and considers their significance for enhancing chemistry education in developing educational settings, such as Pakistan. The study finds that Intelligent Tutoring Systems (ITS) in secondary chemistry offer personalized learning, helping students overcome misconceptions through targeted feedback and continuous assessment. ITS encourages inquiry-based learning, promoting deeper understanding and conceptual change. However, the integration of ITS faces challenges in developing settings like Pakistan, including resource limitations and lack of infrastructure and teacher training. The study concludes that ITS is a powerful tool for advancing conceptual understanding, and recommends teacher training on ITS use, investment in technological infrastructure, and ongoing research to evaluate its effectiveness and improve its application in diverse educational contexts.

Keywords: *Conceptual Understanding, Secondary Chemistry, Intelligent Tutoring Systems, Pedagogical Approach, Active Learning, Constructivist Learning, Personalized Feedback, Inquiry-Based Learning, Formative Assessment, Chemistry Education*

An Evaluation Related Researches to find the Impact of Simulation-Based Teaching on Academic Achievement and Student Engagement in Secondary Biology

Sumayyah Sajid[1] and Dr. Muhammad Naeemullah[2]

[1]PhD Scholar, Department of Education, Northern University, Nowshera, KPK

[2]Dean, FASS, Northern University, Nowshera, KPK

Corresponding author: Email: naeemullah@northern.edu.pk)

Abstract

Due to the rapid advancement in technology and changes in teaching practices simulation-based teaching (SBT) in science education emerged as a new method of teaching. In this research paper some studies available to researcher was reviewed to find the impact of SBT on academic achievement and student engagement at secondary- level biology. This paper synthesizes findings across diverse educational contexts. After evaluation of the review it was revealed that SBT significantly increased the academic achievement. The effect sizes ranged from moderate to large as compared to traditional teaching methods. Moreover, simulation-based teaching consistently improved student behavioral, cognitive, and emotional engagement through active learning, visualization of abstract biological processes, and intrinsic motivation. Some major factors that influence effectiveness were simulation design quality, alignment with curriculum objectives, teacher facilitation, and availability of technological infrastructure. The study concluded that simulation-based teaching has become powerful pedagogical approach for 21st-century biology teaching. It is recommended that SBT may be implemented in classroom to enhance academic performance in biology.

Keywords: *Simulation-based teaching, Biology education, Academic achievement, Student engagement, Secondary education, meta-review, Technology-enhanced learning.*

Identifying the perception about the Instructional Effectiveness in Overcrowded Classroom Management at Secondary Schools

Tahira Noor[1] and Dr. Muhammad Naeemullah[2]

[1]MPhil scholar, department Education, Northern University, Nowshera, KPK

[2]Dean, FASS, Northern University, Nowshera, KPK **Corresponding Author** (**Email: naeemullah@northern.edu.pk**)

Abstract

Overcrowded classrooms present a significant challenge to the quality of education, particularly in science instruction, where student engagement and hands-on learning are essential. This study identified the perception about of overcrowded classrooms on students' academic performance and teaching effectiveness. The objectives of the study were; (i) to identify the perception of students about the instructional effectiveness in overcrowded classroom management at secondary schools and (ii) to identify the perception of teachers about the instructional effectiveness in overcrowded classroom management at secondary schools. All the overcrowded classroom in district Nowshera Secondary Schools were the population of the study. A sample of 150 students was selected through stratified random sampling technique and
50 teachers were selected through convenient sampling technique from 10 boys and girls overcrowded classrooms secondary schools. The data was collected through questionnaires. The collected data was analyzed using SPSS by applying descriptive and inferential statistics. The study concluded that overcrowded classrooms negatively impact both student learning and teaching effectiveness. Students reported difficulties in concentration, participation, and performance, while teachers faced challenges in maintaining discipline, providing feedback, and engaging students in learning. Both teachers and students identified that reducing class sizes and providing more support for teachers would significantly improve classroom management and teaching quality. It is therefore, recommended that a multi-faceted approach involving structural changes, improved teaching practices, and adequate support systems is necessary to mitigate the impact of overcrowded classrooms. With proper policy adjustments, professional development, and strategic use of technology, both teaching effectiveness and student academic performance can be enhanced in overcrowded environments. The study will be valuable for educators, policymakers, and school administrators for mitigating the adverse effects of overcrowded classrooms on student learning.

Keywords: *Teaching effectiveness, Overcrowded classrooms, Class size, Academic achievement, Student performance, Learning outcomes, Student engagement, learning*

environment, teaching strategies.

Integrating STEAM Education and Digital Literacy in District Buner Schools: Challenges, Strategies, and Prospects

Ahmad Zeb[1], and Dr. Noor Muhammad[2]

[1]MPhil Scholar, Department of Education, Northern University, Nowshera KPK.
[2]Assistant Professor, Department of Education, Northern University, Nowshera KPK, Corresponding Author Email: noor.muhammad@northern.edu.pk

ABSTRACT

As global educational paradigms shift toward interdisciplinary models, the demand for technology-integrated frameworks has become paramount for student success. This research investigates the integration of STEAM (Science, Technology, Engineering, Arts, and Mathematics) education and digital literacy within the secondary schools of District Buner. Employing a quantitative research design, data were collected from a stratified sample of 40 secondary schools, comprising 20 public and 20 private institutions. Through a structured evaluation of pedagogical practices and technological infrastructure, the study explores the correlation between integrated learning and student cognitive outcomes. The findings reveal that while STEAM-based modules significantly enhance critical thinking and creative problem-solving, their effectiveness is heavily moderated by the existing level of digital literacy among both students and educators. Furthermore, the analysis identifies critical implementation barriers, including a significant digital divide between public and private sectors, inadequate teacher professional development, and a lack of specialized laboratory resources. The study concludes that a synergistic policy for STEAM and digital inclusion is vital for bridging the educational gap in District Buner and provides data-driven recommendations for policymakers to modernize regional curriculum standards.

Keywords: *STEAM education, digital literacy, District Buner, secondary education, quantitative research, pedagogical integration, 21st-century skills.*

The Effects of Rhymes in Improving Reading Fluency at Primary Level in District Swabi

Author: Alia Bibi M. Phil Scholar, Northern University Nowshera (aliarauf232@gmail.com)

Co-Author: Dr. Noor Muhammad Assistant Professor, Department of Education, Northern University Nowshera

ABSTRACT

Reading fluency, an essential aspect of early literacy development, includes accuracy, speed, and prosody. It is a vital skill in early childhood education, acting as a link between word recognition and the capacity to read text smoothly and expressively. Rhymes, characterized by their rhythmic and repetitive patterns, are believed to enhance phonological awareness, vocabulary development, and oral language abilities, thus fostering reading fluency. Through a review of current literature and an exploratory study, we discover that rhymes play a significant role in enhancing children's language fluency and overall engagement in learning. The present study investigated the influence of rhymes on enhancing the reading fluency of first-grade students in District Swabi. The major objective of the research was to assess the effects of rhymes on the reading fluency of first-grade students. Based on this objective, the following null hypothesis was evaluated: there is no significant difference in the reading fluency between the pretest and posttest groups. A sample consisting of 20 students from WGHS RB Tarbela (Swabi) was selected for the study. A single-group experimental pretest- posttest design was employed to evaluate the effects of rhymes on the reading fluency of first-grade students. Their reading rates were determined by counting the number of words read per minute. Subsequently, activities incorporating rhymes were conducted with the group over a period of 4 weeks. After the intervention, the measurements were repeated, and the pretest and posttest scores were compared. The data were analyzed using Mean, SD, and a paired sample t-test. The results indicated an

improvement in reading rates. The implications of these findings are discussed, and recommendations are provided at the end.

Key Words: Reading fluency, Rhymes, Pretest-posttest design, Reading rates, Paired sample t-test

Evaluating the Effectiveness of Induction Training Program Phase-IV of Primary School Teachers

Ayesha Nawaz[1], Dr. Noor Muhammad[2], Javeriah Maffarih[3]

[1]MPhil Scholar, Department of Education, Northern University, Nowshera KPK.
[2]Assistant Professor, Department of Education, Northern University, Nowshera KPK, Corresponding Author Email: noor.muhammad@northern.edu.pk

[3]MPhil Scholar, Department of Education, Northern University, Nowshera KPK.

ABSTRACT

The study was conducted to investigate the effectiveness of the teacher induction training program in the District of Swabi. The major objectives of the study were; (i) to explore the impact of induction training program, and (ii) to find the motivational level of the trainee teachers. On the basis of the above objectives, the following questions were fabricated, (i) how does the induction program phase IV improve the pedagogical skills of new appointees? And (ii) how does the induction program phase-IV impact the motivational level of trainee teachers? The population of the study was all the female teachers (437) who were nominated for induction training. The sample comprised of 50 female teachers attending induction training program in phase IV of district Swabi. The study was quantitative in nature. The data was collected through a closed-ended questionnaire, so the research design was descriptive. The collected data were analyzed by using percentage. The study concluded that the training design, learning facilities, training process, and training outcome are having a significant effect. It was all concluded that the training design, learning facilities, training process, and training outcome had a significant effect on the pedagogical skills and motivation of the respondents. It is therefore, recommended that all the new inducted teachers should be given compulsory induction training to improve teaching learning process. The study will be significant for teachers, management of education policy maker.

Keywords: Teacher Induction Training, Pedagogical Skills, Professional Development, Effectiveness.

The Effect of Overcrowded Classrooms on Academic Performance of Grade-6 Students in Mathematics

Humaira Zeb Durrani[1], and Dr Noor Muhammad[2]

[1]MPhil Scholar, Department of Education, Northern University, Nowshera KPK.

[2]Assistant Professor, Department of Education, Northern University, Nowshera KPK, Corresponding Author Email: noor.muhammad@northern.edu.pk

[3]Assistant Professor, Department of Education, Northern University, Nowshera KPK.

Abstract

In Pakistan, overcrowded classrooms are going to be one of the major issues and considered as a factor responsible for falling education standards. This study sets out to investigate the effect of overcrowded classrooms on academic performance of students in teaching Mathematics at grade-6. Objectives of the study were; i) to evaluate the specific effects of overcrowded classrooms on academic performance of students of grade-6 in Mathematics, ii) to examine the factors which are created by the overcrowded classroom, iii) to measure the correlation between overcrowding classroom and student mathematical achievement level, iv) to evaluate the effect of overcrowded classrooms on teaching learning process. The researcher hypothesized that the effect of overcrowded classrooms may influence academic performance of students in mathematics subject. The population of the study was, all the teachers and students in public middle schools in district Nowshera. For the purpose of this study, a sample of thirty students and three teachers were randomly selected from the selected five schools. A total of one hundred and sixty-five sample being thirty-three per school were selected for study. The mix method approach was used. Quantitative data were collected through structured questionnaires and qualitative data were collected through group discussion and focus groups. The data were analyzed by percentages, descriptive statistics tools such as graphs, tables, charts and inferential statistics tools that helped to test hypotheses such as t-test, ANOVA.

Key words: Overcrowded classrooms, Academic performance, Mathematics, grade-6.

Effect of Digital Tools in English Language Teaching on Students' Academic Achievement at Secondary Level

Izzat Noor[1] , Dr. Noor Muhammad[2], and Dr. Muhammad Shuaib[3]

[1]PhD Scholar, Department of Education, Northern University, Nowshera KPK.

[2]Assistant Professor, Department of Education, Northern University, Nowshera KPK, Corresponding Author Email: noor.muhammad@northern.edu.pk

[3]Assistant Professor, Department of Education, Northern University, Nowshera KPK.

Abstract

The study explored how digital resources, including smart classrooms, multimedia presentations, and digital instructional materials influence teaching effectiveness in English language classrooms at secondary level. The objectives of the study were; (i) to explore the effect of digital tools in English language teaching to enhance reading fluency among secondary level students; (ii) to examine the effect of digital tools in English language teaching on students understanding of basic sentence structures in the subject of English at secondary level. For achieving these objectives, null hypotheses were tested. The study was experimental in nature. A sample of thirty students of Al-Noor Education Foundation School System Hazro District Attock were selected for experiment. Then the sampled students were divided into experimental and control group on the basis of pretest scores through paired random sampling technique. The experimental group was treated through digital tools in English language teaching for six weeks while the control group was treated through the traditional method of teaching. After six-week interaction, post-test was conducted. To measure the performance of the students the statistical technique like Mean, Median, SD and t-test was applied. The study is equally significant for all secondary level students, teachers, trainers, researchers and test developers.

Keywords: *Digital tools, English Language Teaching, Academic Achievement, Digital Resources.*

Empowering Women through Fine Arts Education in District Nowshera Rural and Urban Perspectives

Mahnoor[1], and Dr. Noor Muhammad[2]

[1]MPhil Scholar, Department of Education, Northern University, Nowshera KPK. [2]Assistant Professor, Department of Education, Northern University, Nowshera KPK, Corresponding Author Email: noor.muhammad@northern.edu.pk

Abstract

Fine arts show a vibrant role in encouraging cultural appearance, personal growth, and social alteration, predominantly for womanhood from sidelined groups. In District Nowshera, feminine contribution in creative education is often imperfect due to gender inequalities, socio-cultural limitations, and insufficient institutional care. These encounters decrease women's participation in fine arts education. The study highlights how appointments in fine arts improve critical thinking, emotional aptitude, communication skills, and social presence among female learners. It also inspects the role of educational institutions in providing comprehensive seats, expert training, and policy support to encourage women's contribution in inventive fields. By examining present blockades and possible policies, the study highlights the status of established institutional agendas and communal enterprises to increase access to creative education for females. Eventually, the upgrade of fine arts education is accessible as an authoritative tool for women's empowerment and social development. Secondary female appointments in the arts can contribute not only to distinct growth but also to wider cultural sustainability and social development in District Nowshera.

Keywords: *Fine Arts Education, Women Empowerment, Gender Inequality, Cultural Development, Female Participation, Creative Education, Social Development, District Nowshera*

THE ROLE OF PRINT MEDIA IN ENHANCING STUDENT LEARNING AT UNIVERSITY LEVEL

Naveed Khan[1], Dr. Noor Muhammad[2], Zafar Muhammad[3]

[1]MPhil Scholar, Department of Education, Northern University, Nowshera KPK. [2]Assistant Professor, Department of Education, Northern University, Nowshera KPK, Corresponding Author Email: noor.muhammad@northern.edu.pk

[3]MPhil Scholar, Department of Education, Northern University, Nowshera KPK.

Abstract

The value of print media in higher education is frequently undervalued in the age of digital learning. This study investigates how print materials including textbooks, scholarly journals, and newspapers can improve university-level student learning. Data was gathered using quantitative research approach by distributing structured questionnaires to sample undergraduate students of universities. The study to investigate the level of print media usage, by the successful students, and identified the difficulties they counted for using these materials. The study investigated how various forms of print media contribute to students' academic understanding, knowledge retention, and conceptual clarity. The results help guide policy decisions on the integration of traditional and digital learning resources in higher education and offer insightful information about the ongoing importance of print media in academic achievement. The study's conclusion is that print media continues to be an important educational tool in addition to digital media, and it successfully enhances students' understanding and academic achievement at the university level. According to the study, teachers should promote the frequent use of print materials for learning, and universities should provide sufficient and current print resources in their libraries.

Key Words: *Print Media, Higher Education, University Level, Textbooks, Questionnaires, Academic*

Analyzing the Impact of Educational Policies on Modern Teaching Practices

Shahryar khan[1], and Dr. Noor Muhammad[2]

[1]PhD Scholar, Department of Education, Northern University, Nowshera KPK.

[2]Assistant Professor, Department of Education, Northern University, Nowshera KPK, Corresponding Author Email: noor.muhammad@northern.edu.pk

[3]Assistant Professor, Department of Education, Northern University, Nowshera KPK.

Abstract

The study analyzes how present-day educational policies influence modern teaching practices in schools. The research examines the ways in which educational policies shape instructional methods, classroom management, assessment strategies, and teachers' professional responsibilities. Using a mixed-method approach, data were collected through surveys and document analysis to understand teachers' perceptions of policy implementation. The findings reveal that while educational policies aim to improve teaching quality and student learning outcomes, they often create challenges such as increased workload, limited instructional flexibility, and pressure to meet standardized requirements. However, the study also indicates that effective policy support, professional development, and clear guidelines can help teachers adapt positively to policy changes. Overall, the research highlights the need for well-designed, teacher-friendly policies that align with classroom realities and promote meaningful instructional improvement.

Keywords: *Educational Policies, Modern Teaching Practices, Professional Development, mixed method approach, Instrumental Improvement.*

The Role of Parental Involvement in Students' Success

Sumbal Mazhar[1] ,Dr. Noor Muhammad[2], and Dr. Muhammad Shuaib[3]

1 MPhil Scholar, Department of Education, Northern University, Nowshera KPK.

2Assistant Professor, Department of Education, Northern University, Nowshera KPK, Corresponding Author Email: noor.muhammad@northern.edu.pk

3Assistant Professor, Department of Education, Northern University, Nowshera KPK.

Abstract

Parental involvement plays a crucial role in students' academic success. This study aimed to explore the various forms of parental engagement and their impact on student performance, with a focus on the Pakistani context. The main objectives of study were; (i) to identify the various types of parental involvement in education, (ii) to evaluate the anticipated impact of parental involvement on student success, (iii) to explore barriers that limit parental involvement in the Pakistani context. On the basis of the above objectives following research questions were formulated, (i) what are the various types of parental involvement in education?
(ii) what is the anticipated impact of parental involvement on student success? (iii) what are the barriers that limit parental involvement in the Pakistani context? The population consisted of school-going children (primary and secondary levels) and their parents, with specific attention to urban areas such as Town areas of Peshawar. A sample of 20 parents and 20 teachers were selected, and data were collected using structured questionnaires. The responses were analyzed using percentage-based methods, and statistical tools like Mean and Chi-square (X^2) were applied where relevant. The findings hold significance for students, teachers, researchers, and curriculum developers by highlighting the importance of strong home-school collaboration in improving educational outcomes.

Keywords: *Parental Involvement, Students' success, Students' performance*

Comparing the Effectiveness of Discussion Methods in Enhancing Islamic Education Outcomes

Tehlel[1] , Dr. Noor Muhammad[2] and Dr. Muhammad Shuaib[3]

1MPhil Scholar, Department of Education, Northern University, Nowshera KPK.

2Assistant Professor, Department of Education, Northern University, Nowshera KPK, Corresponding Author Email: noor.muhammad@northern.edu.pk

3Assistant Professor, Department of Education, Northern University, Nowshera KPK.

Abstract

The purpose of investigation aimed to find out whether the discussion technique benefited public secondary school students' academic achievement, development of social skills, and motivation. Additionally, impact conversation approaches (jigsaw method) were investigated in this study. This research employed an authentic experimental method. The purpose of this investigation was to: (i) Analyze the impact of the method of conversation regarding the academic achievement of pupils within Islamic education curriculum. 281,284 secondary school students in Khyber Pakhtunkhwa made up the study's population. Found on their pre-test results, sixty 5-graders from Government Girl High school khairabad, Nowshera were chosen as the research sample and split into two groups: the experimental group and the control group. For this, the paired random sampling technique was applied. Students in the control group were taught using predictable knowledge exercises (lecture method) in the classroom, whereas students in the experimental group were taught using the discussion method. Data were collected using pre-, post-, and retention testing. The obtained numerical data was examined using the mean, median, standard deviation, and t-test. The following were the main conclusions: The academic performance of secondary school students was enhanced by fishbowl discussion activities in contrast to pupils who acquired knowledge through conventional means, those who learned through discussion tactics had a greater retention rate.

Keywords: *Discussion Method, Fishbowl, Jigsaw, Academic achievement, Conversation.*

The Role of Transformational Leadership in Enhancing Teacher's Performance: A Study of the Education System in Khyber Pakhtunkwa

Zubariya Izhar Sheikh[1], and Dr Noor Muhammad[2]

[1]MPhil Scholar, Department of Education, Northern University, Nowshera KPK.

[2]Assistant Professor, Department of Education, Northern University, Nowshera KPK, Corresponding Author Email: noor.muhammad@northern.edu.pk

[3]Assistant Professor, Department of Education, Northern University, Nowshera KPK.

ABSTRACT

This mixed-method phenomenological study examined how transformational leadership enhances teacher performance in Khyber Pakhtunkhwa's resource-constrained education system. Semi-structured interviews with 24 participants (20 teachers, 4 principals) from Peshawar Model Schools and Islamia Collegiate Model Schools revealed five leadership practices: Student-Centered Focus (100%), Visionary Inspiration (87.5%), Personal Investment (87.5%), Individual Consideration (83.3%), and Cultural Integration (79.2%). Analyses revealed that effective principals integrated Islamic educational values with modern pedagogy—using Quranic references to legitimize innovation and demonstrating personal financial sacrifice (15-25% of salary) for school resources. When principals framed computer education as "Allah's gift to study Quran better," parental resistance transformed into support. Academic performance data showed 10-20% higher test scores in transformational leadership schools, while 90% of teachers adopted innovative methods and all reported increased job satisfaction. The study extends transformational leadership theory by identifying cultural- religious legitimization as a critical mediating mechanism between leadership behaviors and teacher performance in Pakistani contexts—a dimension underexplored in Western models.

Keywords: *transformational leadership, teacher performance, cultural integration, Islamic education, Khyber Pakhtunkhwa, Pakistan*

Exploring the Transformative Role of Teachers from Generative AI Observers to Generative AI Creators

Husrat Bibi[1], Ayesha Batool[2] and Prof, Dr. Rabia Tabassum[3]

[1]PhD Scholar. Department of Education, Northern University, Nowshera, KPK

[2]PhD Scholar. Department of Education, Northern University, Nowshera, KPK

[3]Professor Dr, Department of Education, Northern University, Nowshera, KPK
Corresponding Author: Email: rabia@northern.edu.pk

Abstract

The rapid emergence of Generative Artificial Intelligence (GenAI) is transforming educational methods and changing teachers' professional roles. Teachers are gradually transitioning from passive observers or end users of educational tools to Generative AI creators. The purpose of this research is to investigate how teachers' responsibilities change from GenAI users to GenAI creators. The study uses a literature review methodology. Using a funnel analysis approach, the study examines the literature from general discussions about GenAI adoption to specific stages of teacher engagement, such as awareness, exploration, integration, and invention. The analysis shows a steady shift in teachers' roles, from passive use of GenAI technologies to active development of GenAI-supported pedagogical approaches. The study indicates that the move from GenAI users to GenAI creators occurs gradually and in stages, impacted by teachers' AI literacy, professional development, institutional support, and ethical awareness. To facilitate this shift, the study suggests providing ongoing professional development focused on creative GenAI use, setting clear institutional norms for ethical AI integration, and encouraging collaborative communities in which instructors may exchange novel GenAI practices. These approaches can empower instructors to play an active and creative part in GenAI-enhanced teaching.

Key Words: *Teachers' Professional Roles, Generative Artificial Intelligence, AI Literacy, GenAI- Supported Pedagogical Approaches, Professional Development*

Effect of Observation Method on Cognitive Domain of Elementary School Students in the Subject of General Science

Sanober Sultan[1], Nagina Nargis[2], Prof. Dr.Rabia Tabbasum[3]

[1]PhD Scholar, Department Of Education, Northern University, Nowshera, KPK

[2]PhD Scholar, Department Of Education, Northern University, Nowshera, KPK

[3]Prof.Dr.Department Of Education, Northern University, Nowshera, KPK.
Corresponding author: Email:(rabia@northern.edu.pk)

Abstract

Understanding general science at the elementary level has often been challenging for children, as the subject introduces new terms and concepts that are difficult for them to grasp. The aim of this study is to examine the effect of observation method on the cognitive domain of elementary school students in general science. Literature review method was used to examine the content of empirical papers from 2020 to 2025, by using the PRISMA system, drawing on the PubMed, Science Direct, Web of Science, and Scopus database ,it is concluded that applying the observation method can effectively enhance children's cognitive domain in general science. This approach has proven to be very effective in helping students understand general science, and by adopting it, students' learning has been positively enhanced by covering cognitive domain of Bloom's Taxonomy. It is recommended that teachers teach children by adopting the observation method.

Keywords: Observation Method, Cognitive Development, Affective Domain, Psychomotor Skills,Elementary School Students.

SOCIAL EMOTIONAL LEARNING IN THE AGE OF AI DRIVEN CLASSROOMS FOR HOLISTIC AND ADAPTIVE LEARNING ECOSYSTEM

Ayesha Batool[1], Safia Batool[2], Prof. Dr Rabia Tabassum[3]

[1]PhD Scholar. Department of Education, Northern University, Nowshera, KPK

[2]PhD Scholar. Department of Education, Northern University, Nowshera, KPK

[3]Professor, Department of Education, Northern University, KPK **Corresponding Author:** Email: rabia@northern.edu.pk

Abstract

The foundation for converting classrooms into highly adaptable and data-driven learning environments is the quick integration of artificial intelligence into educational settings. The aim of this study is to analyze the role and significance of Social and Emotional Learning (SEL) in AI- driven classrooms for the development of a holistic and adaptive learning ecosystem. Relevant reviewed studies method was used. Using funnel analysis, the research narrows from broad investigations of AI in education to specific insights about AI's role in developing holistic and adaptive learning ecosystems. It is find out from the previous researches, that AI is used as a catalyst for fostering adaptive and learning ecosystem. This research demonstrates a paradigm shift from solely cognitive personalization to emotionally intelligent and socially adaptive learning ecosystems. It is emphasized that SEL inside AI-driven educational environments is necessary for holistic and adaptive learning environment in the educational institutions. It is concluded that the future of AI-enabled classrooms must combine technology innovation with the growth of human values in order to ensure long-term, egalitarian, and comprehensive learning results.

Key words: AI-Driven Classrooms; Social and Emotional Learning (SEL); Emotional Intelligence; Adaptive Learning Ecosystems; Holistic Education.

Artificial Intelligence (AI) Literacy in Secondary Education: A Systematic Review of Challenges and Opportunities

Nagina Nurgis1[1] , Sanober Sultan[2],Prof. Dr. Rabia Tabassum[3]

[1] PhD Scholar, Department of Education, Northern University, Nowshera , KPK

[1] PhD Scholar, Department of Education, Northern University, Nowshera , KPK

[1] Professor. Dr, Department of Education, Northern University, Nowshera , KPK
Corresponding author: Email: (rabia@northern.edu.pk)

ABSTRACT

Presently, Artificial Intelligence (AI) literacy has become an emerging topic in digital literacy education research. However, it is still obscure in secondary education since the AI curriculum for young learners has just been designed in recent years. The aim of this study is to explore comprehensively AI literacy in secondary education, integration opportunities, and associated challenges within educational context. Literature review method was used to examine the content of empirical papers from 2020 to 2025. This scoping reviews evaluate, qualitative synthesis, and display of studies on AI literacy in secondary education. The discussion of the AI literacy implementation in secondary education contributes to providing references for educators and researchers to design interventions to engage learners in AI learning. Further, researcher identified a set of challenges and opportunities of AI literacy. Several challenges included (1) lack of teachers' AI knowledge, skills, and confidence; (2) lack of curriculum design; and (3) lack of teaching guidelines. Although educators meet challenges at the beginning stage of developing AI instructional design for learners, AI learning could bring learning opportunities and foster young children's AI literacy in terms of AI concepts, practices and perspectives. However, there will be a growing number of age-appropriate curriculum and tools for the secondary level. Therefore, it is recommended for future researchers and educators to improve AI literacy research and learning design in

Artificial Intelligence as a Tool for Boosting Motivation Among Generation Alpha Students

Safia Batool[1], Husrat Bibi[2], Prof. Dr Rabia Tabassum[3]

[1]PhD Scholar. Department of Education, Northern University, Nowshera, KPK

[2]PhD Scholar. Department of Education, Northern University, Nowshera, KPK

[3]Professor Dr, Department of Education, Northern University, KPK **Corresponding Author:**

Email: rabia@northern.edu.pk

Abstract

Traditional teaching approaches are less effective in sustaining Generation Alpha's motivation and excitement for learning because they are the first generation of students to have grown up entirely surrounded by cutting-edge digital technology. The aim of this study is to examine the role of AI-based educational tools in enhancing learning motivation among Generation Alpha students. The umbrella review method was used in this study. Employing a funnel analysis approach, the literature review narrows from broad themes of AI in education to specific strategies enhancing student engagement. AI-based educational platforms, gamified apps, and adaptive learning systems are increasingly being used to provide students with personalized learning experiences based on their interests, learning preferences, and performance levels. It is concluded that AI is the best tool for enhancing motivation among generation alpha. However, it also addresses significant issues like equity, access, and the digital divide. Therefore, it is recommended to striking a balance between technological advancement and human-centered ideals in education.

Key Words: Generation Alpha, Artificial Intelligence in Education, Student Motivation, Personalized Learning, Gamified Learning

Role of Social Media on Mental Health of Secondary School Students

Hifsa Iftikhar[1] and Dr. Sajid Rehman[2]

[1]MPhil Scholar, Department of Education, Northern University, Nowshera, KPK
[2]Assistant Professor, Department of Education, Northern University, Nowshera, KPK **Corresponding author:** Email: sajid@northern.edu.pk)

Abstract

This study was conducted to explore the role of social media in the mental health of secondary school students. The primary objectives were to investigate the relationship between social media use and mental health outcomes, and to identify specific social media activities that impact students' psychological well-being. With the increasing integration of social media into adolescents' daily lives, understanding its influence has become a pressing concern for educators, parents, and policymakers. The study adopted a descriptive research design. All the Urban secondary school students of District Nowshera KP was the population of the Study. A sample of 60 students was selected using convenient sampling techniques. Data were collected through a structured questionnaire and analyzed using percentages to highlight common patterns and experiences. The findings revealed that a majority of students frequently used WhatsApp and TikTok, They were exposed to negative experiences such as cyber bullying and online harassment. Many reported feelings of sadness, loneliness, and emotional distress following extended periods of social media use. Additionally, a significant portion of participants stated that social media had disrupted their sleeping patterns and contributed to declining mental health, with effects that were largely negative. However, some participants also acknowledged the positive aspects of social media use. They reported that platforms like whatsapp & TikTok allowed them to connect with friends, discover new interests, and express themselves creatively. For a number of students, social media served as a source of entertainment and stress relief, especially during periods of isolation. These mixed responses highlight the complex and multifaceted impact of social media on student well-being. Based on these findings, the study recommends that parents and teachers should play an active role in guiding students toward responsible and healthy social media usage. Such guidance can help mitigate the negative consequences and encourage more positive online experiences. This study provides valuable insights that can inform educational practices, parental strategies, and policy decisions aimed at supporting the mental well-being of adolescents in the digital age.

Keywords: *Social Media, Mental Health, Secondary School Students, Psychological Well Being, WhatsApp, TikTok*

Evaluating the Effectiveness of Learning Theories in Contemporary Instructional Practice

Maria Javed[1] and Dr. Sajid Rehman[2]

[1]PhD Scholar, Department of Education, Northern University, Nowshera, KPK [2]Assistant Professor, Department of Education, Northern University, Nowshera, KPK **Corresponding author:** Email: sajid@northern.edu.pk)

Abstract

This paper evaluated some published researches about the effectiveness of major learning theories in contemporary instructional practice like Behaviorism, Cognitivism/Constructivism, Social Learning Theory, and Connectivism. Findings of these researches revealed a clear shift toward hybrid and context-responsive instructional models. Constructivist and social learning approaches dominate technology-enhanced, collaborative, and equity-oriented learning environments, while behaviorist strategies remain effective for foundational skill acquisition, particularly within adaptive learning systems. Connectivism is emerging as a valuable framework for understanding self-directed and networked learning in digital contexts, though its effectiveness is moderated by learners' self-regulation and access to technology. Overall, the review concludes that no single learning theory is universally optimal; rather, instructional effectiveness is contingent upon contextual variables such as subject matter, learner characteristics, pedagogical goals, and technological integration. Implications for research include the need for longitudinal designs and stronger links between learning theory, instructional practice, and emerging neuroeducation evidence. The study will be beneficial for researchers to select their research problem. Similarly the study will be helpful for teachers to teach through effective learning strategy.

Keywords: *Effectiveness, Learning Theories, Instructional Practices, Behaviorism, Cognitivism, Social Learning Theory, Correctivism Instructional Effectiveness.*

The Impact of Inquiry-Based Instruction on Students' Learning in Elementary General Science: An Evaluation of Related Researches

Nida[1] and Dr. Sajid Rehman[2]

[1]PhD Scholar, Department of Education, Northern University, Nowshera, KPK

[2]Assistant Professor, Department of Education, Northern University, Nowshera, KPK

Corresponding author: Email: sajid@northern.edu.pk)

Abstract

The growing emphasis on student-centered pedagogical approaches has accelerated the adoption of inquiry-based instruction in elementary science education. This article presents a comprehensive evaluation of national and international studies published between 2021 and 2025, examining the effectiveness of inquiry-based instruction on students' learning outcomes in general science at the elementary level. Using a systematic narrative review methodology, peer-reviewed empirical studies employing quantitative, qualitative, and mixed-methods designs were identified and synthesized across diverse educational contexts. The findings indicate a strong consensus that inquiry-based instruction significantly enhances students' conceptual understanding, academic achievement, science process skills, scientific reasoning, and attitudes toward science compared to traditional instructional approaches. In addition, inquiry-based practices consistently promote higher levels of student engagement, motivation, and active participation by encouraging exploration, questioning, and hands-on investigation. The review further identifies key mediating factors influencing instructional effectiveness, including teachers' pedagogical content knowledge, the quality of instructional scaffolding, and availability of instructional resources, classroom context, and alignment with assessment practices. Differences between national and international studies are also noted, particularly in relation to technological integration and resource availability. The study concludes that inquiry-based instruction is a highly effective pedagogical strategy for elementary science education when supported by adequate teacher preparation and institutional support, and it offers implications for instructional practice and future research.

Keywords: *inquiry-based instruction; elementary science education; academic achievement; student engagement; science process skills; systematic review; student-centered learning.*

Exploring the Effectiveness of Discovery Learning Strategy on Writing Skills at Secondary-Level in English. An Evaluation of Related Researches

Noor Ali[1], and Dr. Sajid Rehman[2]

[1]PhD Scholar, Department of Education, Northern University, Nowshera, KPK

[2]Assistant Professor, Department of Education, Northern University, Nowshera, KPK

Corresponding author: Email: sajid@northern.edu.pk)

Abstract

This study evaluated the review of recent researches that investigated the effect of the Discovery Learning strategy on English writing skills among secondary-level learners. This review analyzes some recent studies that are quasi-experimental, mixed-methods, and action research from diverse geographical contexts. The evaluation of these studies shows that Discovery Learning strategies consistently enhances writing performance of students in the subject of English, particularly in essay writing, explanatory sentences, and descriptive text genres by fostering active student engagement, critical and smart thinking, and self-guided learning. Discovery Learning is a constructivist approach where learners almost build knowledge through exploration and problem-solving, to enhance engagement and depth in writing. These studies shared that Discovery Learning has a statistically significant positive effect on the development of new ideas, organization and construction, vocabulary use, and grammatical precision. These studies also identified key elements like increased student motivation, improved critical thinking, and better transfer of learned concepts in order to novel writing tasks due to discovery learning strategy. However, some challenges are being faced to implement this strategy like time, required teacher expertise, and management problems. This study concludes that Discovery Learning is a highly effective pedagogical approach for improving writing skills in English. It is recommended that this strategy be adopted to increase writing skills of the students at secondary level. The study will be beneficial for researchers to conduct their studies in the field that is highlighted in these studies.

Keywords: *Discovery Learning, construction, English writing skills, problem-solving approach, recent research, secondary education.*

An Evaluation of National and International Researches on the Efficacy of Nano Teaching Strategy on Students' Learning in Biology at Secondary Level

Rahmat Hussain[1] and Dr. Sajid Rehman[2]

[1]PhD Scholar, Department of Education, Northern University, Nowshera, KPK

[2]Assistant Professor, Department of Education, Northern University, Nowshera, KPK

Corresponding author: Email: sajid@northern.edu.pk

Abstract

This evaluation synthesizes study evaluated the researches that were conducted both nationally and internationally on the impact of the Nano Teaching Strategy (NTS) on student learning outcomes in secondary-level biology. The NTS, characterized by short, focused, technology-integrated instructional segments, has gained traction as a pedagogical innovation. The Results of these studies indicated a strong positive consensus. These studies reported statistically significant improvements in academic achievement, conceptual understanding, and retention of biological concepts among students exposed to NTS compared to traditional methods. Key mediating factors identified include enhanced student engagement, the use of multimedia and simulations for visualizing abstract processes, and immediate feedback loops. Challenges noted involve initial teacher training requirements and technological infrastructure. The review concluded that NTS was highly promising pedagogical tool for secondary biology education. These studies recommend further large-scale, longitudinal studies and context-specific adaptations. The study will be beneficial for researchers to conduct their studies in the different aspects of Nano teaching Strategy efficacy on students learning in biology.

Keywords: *Nano Teaching Strategy, Micro-teaching, Secondary Education, Biology Education, Academic Achievement, Educational Technology, Systematic Review.*

Effectiveness of Communicative Language Teaching on Pronunciation Skills of Secondary Level English learners: A systematic Review of National and International Studies

Safina Mughal[1] and Dr. Sajid Rehman[2]

[1]PhD Scholar, Department of Education, Northern University, Nowshera, KPK [2]Assistant Professor, Department of Education, Northern University, Nowshera, KPK **Corresponding author:** Email: sajid@northern.edu.pk)

Abstract

The present study reviewed the findings of different researches about the effectiveness of Communicative Language Teaching (CLT) in improving pronunciation skills among secondary level English learners. The study included national and international empirical studies published between 2021 and 2025. After evaluation of these studies it was found that Communicative Language Teaching contributes positively to learners' pronunciation accuracy and intelligibility when communicative tasks were combined with explicit phonetic instrument, corrective feedback, and technology enhanced learning tools. In CLT task based pronunciation activities were used. Students responded through mutual understanding. Students learnt pronunciation by using mobile some challenges like large class sizes, insufficient teacher training in phonology, and an emphasis on fluency over accuracy continue to limit optimal outcomes. It was concluded a hybrid communicative pronunciation approach was most effective for secondary classes. It is recommended that Communicative Language Teaching be used to enhance pronunciation skills of secondary schools students.

Keywords: *Communicative Language Teaching, pronunciation, secondary education, EFL, systematic review.*

Identification of Challenges faced by Teachers for Adopting the Inclusive Education Model in Mainstream Schools

Sanya Waheed[1] and Dr. Sajid Rehman[2]

[1]MPhil Scholar, Department of Education, Northern University, Nowshera, KPK
[2]Assistant Professor, Department of Education, Northern University, Nowshera, KPK **Corresponding author:** Email: sajid@northern.edu.pk)

Abstract

This study was conducted to identify challenges that teachers face for adapting the inclusive education model in mainstream schools. This study also analyzed the perspectives of students with hearing impairments regarding the inclusive education initiatives implemented in key districts of Khyber Pakhtunkhwa (KPK), Pakistan. The objectives of the study were 1) to identify challenges faced by teachers of the mainstream education system in adapting inclusive education in their mainstream schools in Khyber Pakhtunkhwa, Pakistan. 2) to evaluate the attitudes of hearing-impaired students towards inclusive education in mainstream schools in Khyber Pakhtunkhwa, Pakistan. The population of the study was 1529 students and 60 teachers. A sample of 20 students and 20 teachers was selected using a convenience sampling technique. Two questionnaires, one for Teachers and the other for students, were developed to collect the data. The data was analyzed through percentages. The findings indicated that teachers need a combination of knowledge, skills, attitudes, and resources while students have a range of attitudes. The majority expressed gratitude for being included in mainstream educational settings; however, they raised significant concerns about communication barriers, inadequate teaching support, and insufficient classroom management. The study recommend comprehensive training for teachers to, raise community awareness, and to structure classrooms according to students' requirements. This study is significant for inclusive education and will be beneficial for addressing an Educational Gap, Improving Teaching Practices, it will be useful for policymakers, curriculum developers to promote Social Inclusion and Equity.

Keywords: *Challenges, Inclusive Education Model, Main Stream School, Attitude, Hearing impaired Students.*

The Golden Ratio (Φ) as a Cognitive Design Principle in Education: A Conceptual Framework for Enhancing Attention, Engagement, and Learning Balance

Asif Javed[1], Dr. Samia Rehman[2]

[1]PhD Scholar, Department of Education, Northern University, Nowshera KPK.
[2]Professor, Department of Education, Northern University, Nowshera KPK,
Corresponding Author Email: samia@northern.edu.pk

ABSTRACT

Modern classrooms are increasingly marked by student distraction, mental overload, and uneven instructional design. These challenges often make it difficult for learners to stay focused, remain engaged, and process information effectively. Although educators have relied heavily on psychological strategies and educational technologies to address these issues, far less attention has been given to design principles that naturally align with how the human mind perceives balance and organization. One such principle is the ***Golden Ratio (Φ ≈ 1.618)****, a proportional pattern long associated with harmony and balance. Its recurring presence in nature, art, architecture, and human perception suggests that people may respond more positively to learning environments that reflect proportional organization rather than excessive or unbalanced instruction. This study introduces* ***Phi-Based Cognitive Design in Education (PBCDE)*** *as a human-centered instructional approach aimed at improving students' attention, engagement, management of cognitive load, and overall academic achievement in Pakistani higher education. Instead of treating the Golden Ratio as a strict mathematical rule or an aesthetic ideal, the study views it as a flexible guiding principle for instructional balance. When applied thoughtfully, Phi-based proportional structuring may help organize lesson time, content sequencing, teacher–student interaction, and learning activities in ways that reduce unnecessary cognitive strain and support meaningful learning. Using a mixed-methods*

quasi-experimental design, the study combines quantitative and qualitative approaches to capture both measurable outcomes and lived classroom experiences. Quantitative data will be collected through standardized scales measuring cognitive load and student engagement, along with achievement tests. At the same time, qualitative data will be gathered through classroom observations

and semi-structured interviews to better understand how students and teachers experience instructional balance and cognitive ease. The experimental group will be taught using Phi-based instructional structuring, while the control group will receive traditional instruction. Quantitative data will be analyzed using descriptive and inferential statistical techniques, including t-tests and ANOVA, whereas qualitative data will be analyzed thematically. Drawing on insights from mathematics, cognitive psychology, neuroscience, and instructional design, this study presents Phi-Based Cognitive Design as a practical and culturally relevant approach to teaching and learning. The findings are expected to offer preliminary empirical support for integrating proportional cognitive design into instructional practice. By connecting mathematical harmony with educational cognition, the study proposes a thoughtful, humane, and innovative response to the growing challenges of attention, overload, and imbalance in contemporary education.

Keywords: *Golden Ratio, Phi (Φ), Cognitive Design, Attention, Engagement, Cognitive Load, Instructional Balance, Instructional Design*

The Evolution of "Human Oversight": A Document Analysis of AI Regulatory Frameworks

Maryam Behram[1] and Dr. Samia Rehman[2]

[1]PhD Scholar, Department of Education, Northern University, Nowshera, KPK
[2]Professor, Department of Education, Northern University, Nowshera, KPK
Corresponding author: Email: samia@northern.edu.pk)

Abstract

The rapid advancement and increasing autonomy of artificial intelligence (AI) systems have heightened regulatory attention on ***human oversight*** *as a core principle of AI governance. Although widely endorsed to ensure accountability, safety, ethical compliance, and the preservation of human agency, the concept and implementation of human oversight remain uneven across regulatory frameworks. This study examines the* ***evolution of human oversight*** *through a qualitative document analysis of key international, regional, and national AI regulatory instruments, including ethical guidelines, policy documents, and binding legislation. It analyzes how human oversight has been defined, operationalized, and justified across jurisdictions, with particular attention to ethical, legal, and technical dimensions. The study further compares oversight provisions to identify convergences, divergences, and emerging trends, especially the shift from aspirational principles toward risk-based and operationalized oversight models such as human-in-the-loop, human-on-the-loop, and human-in-command. The analysis also identifies gaps, ambiguities, and inconsistencies related to human authority, feasibility of intervention, and accountability in automated decision-making. By tracing these developments over time, the study offers insights into the challenges of maintaining meaningful human control amid growing AI autonomy and proposes directions for strengthening human oversight in future AI regulatory frameworks.*

Keywords: *Human Oversight, AI Regulation, AI Ethics, Automated Decision-Making, Responsible AI, AI Policy Frameworks, Regulatory Compliance, Risk-Based AI Regulation.*

The Impact of Teacher Ethical Behavior on Students Academic Achievements in Secondary Schools in the Era of Artificial Intelligence

Muhammad Yousaf[1], Dr. Samia Rehman[2]

[1]PhD Scholar, Department of Education, Northern University, Nowshera KPK. [2]Professor, Department of Education, Northern University, Nowshera KPK, Corresponding Author Email: samia@northern.edu.pk

ABSTRACT

This study investigates the impact of teacher ethical behavior on students' academic achievement at the secondary school level, with special reference to the present Artificial Intelligence (AI)–based educational environment. With the increasing use of AI tools, digital classrooms and automated assessment systems, the role of teachers has expanded beyond the content delivery to include ethical guidance, fairness and responsible decision- making. In this modern technological era, students are highly influenced by teachers' conduct, particularly in matters related to academic honesty, transparency and ethical use of digital and AI-supported resources. Teacher ethical behavior in this study is viewed as a combination of fairness, honesty, respect for students, professional responsibility and integrity in instructional and assessment practices. The study explains how ethically sound behavior by teachers contributes to a positive learning environment, improves student motivation, builds trust and encourages disciplined academic behavior. In AI-supported classrooms; ethical behaviours of teachers help students understand responsible technology use and reduce issues such as bias, misuse of AI tools and academic dishonesty. The findings of the study emphasize that students taught by ethically responsible teachers show better academic focus, higher confidence and improved learning outcomes. The study concludes that strengthening ethical standards in teacher training programs and educational policies is essential to ensure that the integration of AI in secondary education supports academic achievement while maintaining human values and moral responsibility.

Keywords: *Teacher Ethical Behavior, Academic Achievement, Secondary Education, Artificial Intelligence in Education, Educational Ethics, Moral Responsibility, Digital Learning, Academic Integrity.*

An Exploratory Document Analysis of Ethical Considerations in AI Policies and Guidelines: A Critical Review

Tehseen Nuzhat[1] and Prof. Dr. Samia Rehman[2]

[1]PhD Scholar, Department of Education, Northern University, Nowshera, KPK [2]Professor, Department of Education, Northern University, Nowshera, KPK **Corresponding author:** Email: samia@northern.edu.pk)

Abstract

The rapid global adoption of artificial intelligence (AI) has intensified the need for comprehensive, ethically grounded, and context-responsive governance frameworks. This study undertakes an exploratory qualitative document analysis to critically examine the ethical principles embedded in national and international AI policies and guidelines published between 2020 and 2025. Drawing on research questions focused on the ethical priorities emphasized, the consistency with which these principles are articulated, and the gaps that may hinder responsible AI deployment, the study systematically reviews key governance documents to identify dominant themes and underlying discourses. Findings reveal that transparency, accountability, fairness, privacy, human oversight, and social responsibility are widely acknowledged as core ethical principles; however, significant divergence exists in how these concepts are framed, interpreted, and operationalized across documents. Many policies present strong normative statements but fall short in offering actionable mechanisms for addressing algorithmic bias, strengthening data governance, or protecting vulnerable and marginalized populations. Emerging challenges—including autonomous decision- making, large-scale data integration, increasing reliance on machine learning systems, and cross- sectoral AI applications—receive limited and inconsistent attention. The analysis highlights both the strengths and the critical shortcomings of existing AI ethical frameworks, illustrating considerable gaps, ambiguities, and discursive silences that undermine effective implementation. By linking these findings to the study's objectives and guiding questions, this research underscores the urgency of developing coherent, enforceable, and context-sensitive ethical governance structures. The study contributes important insights for policymakers, researchers, and practitioners seeking to foster responsible, equitable, and socially informed AI development.

Keywords: *AI Ethics, Ethical Governance, Responsible AI, Policy Analysis, Algorithmic Accountability, Data Governance, Discourse Analysis, Transparency and Fairness.*

Climate Change and Its Impact on Learning Loss: Examining Environmental Factor

Imtiaz khan[1], Dr. Muhammad Shuaib[2] and Dr. Noor Muhammad[3]

[1]PhD Scholar, Department of Education, Northern University, Nowshera KPK.

[2]Assistant Professor, Department of Education, Northern University, Nowshera KPK, Corresponding Author Email: shuaib@northern.edu.pk

[3]Assistant Professor, Department of Education, Northern University, Nowshera KPK.

Abstract

Climate change has emerged as a critical challenge to educational systems, with increasing evidence linking environmental stressors to student learning loss. This study examines the impact of climate change on learning loss by focusing specifically on environmental factors such as rising temperatures, extreme weather events, air pollution, and climate-related disruptions to schooling. These factors affect learning through reduced instructional time, increased absenteeism, dropout, impaired cognitive performance, and damage to educational infrastructure. Drawing on secondary data and existing empirical studies, the research analyzes how climate-induced environmental conditions influence students' academic outcomes across different educational contexts. The findings indicate that prolonged heat exposure and frequent extreme weather events are strongly associated with declines in academic performance, particularly in regions with limited climate-adaptive school facilities. The study highlights the need for environmentally resilient educational infrastructure, climate-sensitive academic planning, and adaptive learning strategies to reduce climate-related learning losses. By isolating environmental determinants, this research contributes to a clearer understanding of the pathways through which climate change affects learning and provides evidence to inform education and climate policy integration.

Keywords: *Climate Change, learning losses, vulnerable communities, Adaptation Strategies, climate-resilient infrastructure, environmental determinants.*

An Evaluation of Fifth General Science Textbook in the Light of Curriculum Design

Raj Wali Khan[1], Dr. Muhammad Shuaib[2] and Dr. Rabia Tabassum[3]

[1]Phd Scholar, Department of Education, Northern University, Nowshera, KPK.

[2]Assistant Professor, Department of Education, Northern University Nowshera, KPK, Corresponding Author: Email:(Shuaib@northern.edu.pk)

[3]Professor, Department of Education, Northern University, Nowshera, KPK.

Abstract

In the contemporary era of rapid technological advancement, scientific knowledge has become essential for national development. Consequently, countries strive to equip younger generations with strong scientific understanding, and Pakistan is no exception. At the primary level, General Science plays a key role in developing scientific awareness and inquiry skills among students. Among the four core elements of curriculum—objectives, content, teaching methods, and evaluation—content and teaching methods are particularly significant, as they are mainly reflected in textbooks prepared according to curriculum guidelines. The present study aimed to evaluate the content of the fifth-grade General Science textbook in the light of appropriate curriculum design and to examine the suitability of age-specific teaching methods. A qualitative content analysis method was employed to systematically analyze the textbook. The findings reveal that the content is largely developed according to activity-based curriculum design and provides guidelines to promote student-centered learning of grade fifth at the primary school level.

Keywords ; *curriculum design, General science, content analysis, Primary level.*

Effectiveness of Clinical Teaching Associate (CTA) Model on Nursing Students' Clinical Outcomes

Sana Ullah[1], Dr. Muhammad Shuaib[2]

[1]PhD Scholar, Department of Education, Northern University, Nowshera KPK.

[2]Assistant Professor, Department of Education, Northern University, Nowshera KPK, Corresponding Author Email: shuaib@northern.edu.pk

Abstract

Clinical teaching is a core component of nursing education, yet traditional models often fail to provide adequate supervision and skill development in clinical settings. The Clinical Teaching Associate (CTA) model has emerged as an alternative approach aimed at improving students' clinical competence. The objective of the study was to investigate the effectiveness of CTA model on clinical abilities of the nursing students. To achieve the objective null hypothesis was tested. The sample of study was 140 nursing students from Ziauddin Faculty of Nursing and Midwifery who had just finished a clinical education course for paediatric nurses. Participants were randomly assigned to one of the two groups: Control group and Experimental group. Experimental group got clinical education using the CTA model, while the control group, received clinical education using the traditional teaching technique. Quasi Experimental Non-equivalent post-test only design was used for the study. A questionnaire was used to evaluate participants' clinical outcomes. For the analysis of the data paired t- test was applied. The result of the study demonstrated that the CTA model had a significantly positive effect on nursing students' clinical outcomes. It was suggested that the CTA model should be used as an alternative model to the traditional model for enhancing clinical outcomes of the nursing students.

Keywords: *Clinical Teaching Associate (CTA) model, Nursing education, Clinical outcomes, Clinical competence, Clinical teaching methods, Nursing students*.

Pedagogical Challenges Faced by English Teachers in SLO-based teaching in District Buner

Wajid Ali Shah[1], Dr. Muhammad Shuaib[2] and Dr. Noor Muhammad[3]

[1]M.Phil Scholar, Department of Education, Northern University, Nowshera, KPK [2]Assistant Professor, Department of Education, Northern University Nowshera, KPK, Corresponding Author: Email:(Shuaib@northern.edu.pk)

[3]Assistant Professor, Department of Education, Northern University, Nowshera, KPK

Abstract

Outcome-based Education is plainly well-defined and quantifiable phenomenon that lay down what students should achieve as well as show by the completion of a particular period. It deals with the ideologies of Student Learning Outcomes based teaching, a pedagogical style that needs to be aligned with curriculum, education approaches, and evaluation. Its aims to encourage learner oriented education, abstract comprehension, and quantifiable outcome rather than recall. Although studies have been conducted on SLO-based teaching problems however conducting study in rural district like Buner remained unexplored. This study was conducted to identify pedagogical challenges faced by English teachers in SLO-based teaching. Objectives of the study were i) To identify pedagogical problems encountered English Teachers in the execution of Outcome based teaching. ii) To investigate English Teachers views on preparation, assessment, and conducting activities in outcome-based teaching. Research questions of the study were: i) What are challenges English teachers encounter while applying SLO-based teaching? ii)What are the difficulties they face in preparation, assessment and conducting activities while applying SLO-based teaching? The population of this research was SSTs general in district Buner, who were teaching English. A quantitative survey research design was applied. A Questionnaire was used to collect data from the sampled teachers using five points Likert Scale. Chi-square and descriptive statistics was applied for data analysis. The research concluded that English Teachers faced multiple challenges in applying SLO-based teaching specifically in preparation, assessment and conducting activities. It was suggested to provide regular training to English Teachers regarding SLO-based teaching and assessment.

Keywords: *SLO-based Teaching, Pedagogy, Challenges, English Subject, Secondary Teachers.*

Perceptions of Elementary Teachers about the Implementation of STEM Education in District Buner

Zafar Muhammad[1], Dr. Muhammad Shuaib[2] and Dr. Noor Muhammad[3]

[1]M.Phil Scholar, Department of Education, Northern University, Nowshera, KPK [2]Assistant Professor, Department of Education, Northern University Nowshera, KPK, Corresponding Author: Email:(Shuaib@northern.edu.pk)

[3]Assistant Professor, Department of Education, Northern University, Nowshera, KPK

Abstract

This study aims to investigate elemetary teacher's views on introducing STEM education at elementary level in district Buner. The objective of the study was to explore elementary teachers' perceptions of STEM education. The research question for the study was what will be the perception of elementary teachers regarding implementation of STEM education in Buner? A descriptive survey design was used to assess teachers' opinions on implementation of STEM education. The population of the study was 172 elementary teachers. The sample of the study was 102 elementary teachers who were selected through cluster random sampling. A Questionnaire was used to collect data from the sampled teachers using five points Likert Scale. Descriptive statistics and chi-square were used for data analysis. The findings indicated that teachers had positive opinions regarding STEM's contribution to improving students' capacity for critical thinking and problem-solving. However, issues like no proper training, lack of resources, and challenges in implementing STEM Education in district Buner were observed. The study concluded that proper policy formulation, better infrastructure, and regular teacher training are necessary for STEM to be implemented successfully. It was suggested that proper resources, effective training, and institutional support should be given for proper implementation of STEM education at elementary level in Buner.

Keywords: *STEM Education, Elementary Education, Pedagogy, Teachers' Perceptions,*

Role of Mass Media in Education at University Level

Humaira Tabassum[1], Dr. Rabia Tabassum[2] and Dr. Shumaila Malik[3]

[1]MPhil Scholar, Department of Education, Northern University, Nowshera KPK. [2]Professor, Department of Education, Northern University, Nowshera KPK, [3]Assistant Professor, Department of Education, Northern University, Nowshera KPK. Corresponding Author Email: shumaila@northern.edu.pk

Abstract

The proposed research article aims to explore the role of mass media in education at the university level, focusing on its impact on student engagement, learning outcomes, and academic performance. The objective was to (1) assess the extent of mass media usage by university students for academic purposes. (2) Identify the most frequently used media platforms in the academic context .students of Mphil education of Northern university located in Nowhere, was served as population of the study A sample of 20 students were selected through random sampling to ensure representativeness from population of M.phil. Students of Northern University Nowshera

. The research adopts surveys method.. Data were collected using structured questionnaires consisting of 4 point rating scale and 10 items. Data were analyzed by using percentage. The study's significance lies in its potential to inform educational policy makers, university administrators, and media practitioners about optimizing mass media's role in higher education. By highlighting its benefits and challenges, the research seeks to contribute to strategies for integrating mass media effectively into university curricula, fostering a more dynamic and inclusive learning environment

Key words: Mass media education. Academic performance. Extant of media usage. Academic context.

Negative impact of mass media on student behaviour at university level

Uzma Zeb[1] ,**Dr. Noor Muhammad**[2]

[1] MPhil Scholar, Department of Education, Northern University, Nowshera KPK.

[2]Assistant Professor, Department of Education, Northern University, Nowshera KPK, Corresponding Author Email: noor.muhammad@northern.edu.pk

Abstract

Mass media, like TV, social media, and the internet, greatly influences university students. While it provides information and entertainment, excessive or harmful content can negatively affect their behavior and academic performance. This study explores these effects to promote responsible and healthy media use among students.The study aims to determine how much university students use mass media, examine whether this usage leads to negative changes in their behavior, and assess its impact on their academic performance.This study used a quantitative research approach to examine the impact of mass media on student behavior. A total of 20 students from Northern University were selected as participants. Data was collected using a structured questionnaire designed to measure media usage, behavioral changes, and academic performance. The collected data was analyzed using descriptive statistics to summarize and interpret the findings, providing insights into the patterns and effects of mass media on students.The study explored university students' use of mass media, revealing that most spend one to two hours daily on platforms like Facebook, TikTok, and Instagram. Media use influenced their behavior, mood, and social interactions, with some experiencing stress or difficulty controlling usage. It also affected academic performance, as many students reported that media use impacted their studies while dedicating limited time to daily learning.The study concludes that mass media significantly influences university students' behavior, mood, social interactions, and academic performance. While it provides information and entertainment, excessive or inappropriate use can lead to stress, emotional changes, and reduced study time. Promoting responsible and balanced media use is essential for healthier academic and personal development.

Keywords: *Mass Media, University Students, Social Media Usage, Student Behavior, Academic Performance, Media Influence, Digital Media, Responsible Media Use*

Abstracts

English Linguistics and Literature

Title: EXPLORING SOCIOLINGUISTIC COMPETENCE TRAINING IN A COMMUNICATIVE APPROACH: IMPACT ON PRIMARY SCHOOL TEACHERS IN CHARSADDA, KHYBER PAKHTUNKHWA

Authors: Iram Kanwal Email: irumm.khann@gmail.com

Abstract

This study examines the impact of Sociolinguistic Competence training on primary school teachers in Charsadda, Khyber Pakhtunkhwa, a multilingual area where Pashto, Urdu, and English overlap raises difficult pedagogical questions. The aim of the study is to determine whether the inclusion of Sociolinguistic competence training can improve communicative practices. The study employs a mixed-methods experimental design based on Dell Hymes's Communicative Competence Framework. A total of 100 teachers participated, with participants evenly split between the Experimental and Control groups. An independent-samples t-test of the quantitative analysis indicates a statistically significant improvement in the Experimental Group, with a mean difference of 69.28 points relative to the Control Group. As the results show, teachers in the Control Group continued to rely on inflexible, grammar-oriented methods, whereas the trained teachers were more flexible and employed varied strategies, such as code-switching and register variation, to improve classroom communication. Further qualitative data supported these outcomes, demonstrating a change in teachers' attitudes toward linguistic diversity, leading them to view it not as a setback but as a pedagogical tool. Overall, the study illuminates that the inclusion of sociolinguistic concepts in professional development courses can enhance inclusive pedagogy and instructional approaches, create a learning environment and effectiveness, and minimize the marginalization of learners in multilingual classes.

Keywords: Sociolinguistic Competence, Multilingual Education, Teacher Training,

Communicative Competence, Code-switching,

Title: GENDER SOCIALIZING AGENTS: AN ANALYSIS OF THE CHARACTER OF IJEOMA IN UNDER THE UDALA TREES

Author: Rashida Bibi, Student: PhD English Linguistics NU, Email: rbibi3355@gmail.com

Abstract

Gender socialization concerns the understanding of human behavior within society. It is the perception of an individual developed by society to behave and perform a certain role in a social setting on the basis of biological anatomy. This study explores the role of the socializing agent in Under the Udala Trees (2015) by Okapranta. The study focuses on the role of agents of socialization in the socialization process. The phenomenon of socialization is examined from the perspective of the protagonist, Ijeoma, in the novel. Ann Oakley's Gender Socialization theory (1972) is applied to the novel. The theory states that an individual learns about their gender from society through various agents, and presents four main agents: family, peer group, institutions, and media. The data are collected from the novel's text via purposive sampling and analyzed using content analysis. The study identifies the role of other socializing agents and, in particular, highlights the reasons for the failure of socialization.

Keywords: Gender, socializing, agents, behavior, individual

Title: Language and Religious Discourse: A Linguistics and Persuasion Analysis of the Selected Verses of the Holy Quran

Author: Muhammad Anwar (PhD student at NU) Email: phdscholarmanwar@gmail.com

Abstract

This study examines the persuasive strategies and linguistic features employed in the Holy Quran to convey the divine discourse of the Almighty. Although many studies have examined the various verses of the Holy Quran from different perspectives, no one has analyzed the text of the Holy Quran specifically from the perspective of discourse. This study focuses exclusively on the analysis of linguistic features and persuasive strategies employed in selected verses of the Holy Quran. The study is qualitative and grounded in an interpretivist paradigm. It employs a discourse-analytic approach and textual analysis to examine selected verses of the Holy Quran. The findings aim to provide insights into how discourse functions as a persuasive tool in religious discourse, contributing to a better understanding of Quranic communication.

Keywords: Religious Discourse, Quranic Verses, Linguistic Features, Persuasive Strategies, Discourse Analysis

Title: BACKWASH EFFECT OF ENGLISH EXAMINATION ON ENGLISH PROFICIENCY OF STUDENTS IN KHYBER PAKHTUNKHWA, PAKISTAN

Author: Naveed Ali Shah (PhD student at NU) Email: abdannaveed@gmail.com

Abstract

This study investigates the washback effect of the English Examination on the English proficiency of students in Khyber Pakhtunkhwa, Pakistan, a high-stakes exit test for Secondary School Certificate (SSC) students (9th grade). The main aim of this study is to gain preliminary insights into the relationship between the course syllabus and exam stuff and how Students are affected by the washback effect. It focuses on two dimensions of examinations: Board Examinations (standardized) and Non-Board Examinations (internal/home). Utilizing a quantitative comparative design, the study

analyzed randomly selected English papers from the BISE Mardan and Internal/Home Examinations. Based on the results, it was concluded that several topics that were part of the course syllabus were completely ignored in the Board Examination, whereas they were quite prominent in the Non-Board Examination. This resulted in both positive and negative washback for students. The data were analyzed quantitatively. For this purpose, twenty schools, ten from the government and ten from the private sector, were chosen. Hence, the study provides clear evidence of the washback effect of the exam on the components of the language teaching-learning processes in Khyber Pakhtunkhwa and concludes with recommendations for BISE Mardan regarding a more comprehensive assessment design.

Keywords: washback, English examination, English proficiency, syllabus, Board,

Title: Linguistic Analysis of Election 2024 Hashtags in Pakistani Twitter Discourse

Author: Aqsa Azhar, Shamsa Kanwal, Shabnam, Iqra, Sadia Sharif, Momina Khattak

Department of linguistics, university of education, Lahore, Pakistan

Corresponding author: saharaafreen120@gmail.com

Abstract:

This paper explores the amplification of political communication on Pakistani Twitter during the 2024 General Elections, in which hashtags have become central linguistic tools through which public opinion was expressed and political identity was formed. The study examines the role of political hashtags within the framework of Enregisterment Theory, particularly their capacity to indicate ideological positions and social identification. A sample comprising 37 political hashtags on Twitter and trend platforms, as identified by Google, has been collected. The language distribution, political affiliation, linguistic markers, and code-mixing, abbreviation, and word formation were later assessed using quantitative analysis. The qualitative stage employed central concepts of Enregisterment Theory, such as indexicality, Metapragmatic commentary, and semiotic processes, to explain how selected hashtags represent linguistic behavior and the formation of political identities. The results show that English-language hashtags predominate, that the frequency of slogan-based indexical forms is high, and that there is a strong correspondence with the PTI. Abbreviation and word forming were also common, and code-mixing also contributed significantly to ideological signaling. Taken as a whole, the findings indicate that political hashtags in the 2024 Election are also registered linguistic forms that are actively formed, embedded, and reproduced as political identities within the discourse of Pakistan's digital space.

Keywords: Political hashtags, Enregisterment theory, code-mixing, linguistic, Twitter discourse

Title: The Tide is Turning: An Environmental Critical Discourse Analysis of Melissa Llanes Brownlee's "Oceans Under Threat Like Never Before"

Author: Tasmia Khanum, Email: tasmia.khanum@ue.edu.pk

Abstract

In the contemporary Anthropocene, environmental discourse is frequently dominated by "crisis narratives" that prioritize Western scientific abstraction over localized Indigenous lived experiences.

This paper employs Environmental Critical Discourse Analysis (ECDA) to examine Melissa Llanes Brownlee's flash fiction piece, "Oceans Under Threat Like Never Before." By investigating the intertextual tension between the story's sensationalist, headline-Driven by title and its intimate, Hawai'i-centered narrative, this study argues that Brownlee subverts settler-colonial frameworks of environmental "protection." Utilizing Norman Fairclough's three-dimensional model, the analysis explores how lexical choices—such as the preference for "lava rock" over "sand"—function as acts of linguistic sovereignty. Furthermore, the paper situates Brownlee's work within a "Global South" solidarity network, comparing her "tidalectic" narrative structure with the works of Derek Walcott and Kamau Brathwaite. The findings suggest that Brownlee reclaims the ocean not as a passive victim of climate change, but as an active agent of decolonization that dissolves the artificial boundaries of tourism and private property. Ultimately, the work shifts the discursive focus from "ecological despair" to "Indigenized resilience," offering a homecoming rather than an apocalypse.

Keywords: CDA, Melissa Llanes Brownlee, Indigenous Futurism, Tidalectics, Decolonization, Ecodiscourse.

Title: LANGUAGE, POWER AND GENDERED BECOMING: A FEMINIST CRITICAL DISCOURSE ANALYSIS OF GENDERED IDENTITIES AND POWER STRUCTURES IN MONICA ALI'S BRICK LANE

Author: Tayyba Hafeez, Email: tayybahafeez2020@gmail.com

Abstract

This study examines the relationship among power, language, and gendered identities through a Feminist Critical Discourse Analysis of Monica Ali's Brick Lane (2003). It examines how gendered identities are upheld, formed, and undermined through the novel's diasporic and patriarchal discourse. This study, within Lazar's FCDA framework, examines how the story, language, and ideology contributed to Nazneen's transformation from an obedient woman to an empowered one. This paper examines the inseparability of power, authority, and subjectivity, and how language can reflect or challenge patriarchal conceptions. It focuses on the process by which words become a battleground for women's struggles, negotiations, and developments, particularly for those trapped between migration and postcolonial realities. How Nazneen transitions between silence and submission and an increased sense of self is what you see when you look at her. Her contradictions are not overlooked in the analysis; on the contrary, her decisions and her path pervert and break the old rules. The results are quite explicit: the novel leaves women space to behave, fight, and demonstrate their emotions; however, it also relies on the concept of domesticity and submission to define what it is to be a woman. Her argument that language can both trap and free extends to how women gain power and redefine themselves in the struggle to survive life after migration.

Keywords: Discourse Analysis, Identity, Power, Patriarchal, Transformation

Title: Communicative Competence in Multilingual ESL Classrooms: Effects of Plurilingual Pedagogy on Pragmatic Competence with AI-Light Implementation Pathways

Authors: Aftab Hussain 1 , Muhammad Kamal Khan 2

Aftab Hussain, PhD Scholar at the Department of English and Applied Linguistics, Allama Iqbal

Open University Islamabad, Pakistan. sunswabi@gmail.com

Dr. Muhammad Kamal Khan, Associate Professor, Department of English and Applied

Linguistics, Allama Iqbal Open University, Islamabad. kamal.khan@aiou.edu.pk

Abstract

This paper reports a focused analysis from an explanatory sequential mixed-methods study investigating whether a plurilingual pedagogy can strengthen ESL learners' pragmatic communicative competence, conceptualized as context-appropriate speech-act realization and interactional management. Using a quasi-experimental pretest–posttest design, 120 Grade 11 learners in two public higher secondary schools were assigned to an experimental condition (plurilingual instruction) or a control condition (traditional instruction). Pragmatic outcomes were assessed with a multimedia discourse completion task (DCT) targeting English requests and with student–student role plays rated using interactional-pragmatic descriptors. ANCOVA controlling for pretest scores showed a significant group effect on the request DCT, $F(1, 117) = 10.71$, $p = .001$, $\eta p^2 = .085$, and on the role-play measure, $F(1, 117) = 6.33$, $p = .013$, $\eta p^2 = .052$. Interviews with stakeholders ($n = 12$) suggested that the cross-linguistic comparison of politeness norms, L1-supported planning, and repeated role-play rehearsal reduced anxiety and increased awareness of power, distance, and imposition. The paper outlines feasible "AI-light" practices, such as teacher-in-the-loop use of generative AI and translation tools, for scenario drafting, exemplar creation, and feedback prompts, and aligns them with emerging guidance on responsible educational AI use.

Keywords: Plurilingual Pedagogy, Pragmatic Competence, Requests, Role Play, Discourse

Completion Task, AI-Supported Feedback

Title: THE IMPACTS OF ARTIFICIAL INTELLIGENCE ON THE LEARNING AND TEACHING OF ENGLISH LITERATURE AND LINGUISTICS: A STUDY OF NORTHERN UNIVERSITY, NOWSHERA

Authors: Farman Ali , Rashid Ali , Muhammad Anwar Email: kfarman156@gmail.com

Abstract

This study investigates the role of artificial intelligence in teaching and learning English literature and linguistics at Northern University, Nowshera. Although artificial intelligence is widely used across the social sciences, little is known about its positive or negative effects on the teaching and learning of English literature and linguistics. This study primarily examines the effects of artificial intelligence on the teaching and learning of English literature and linguistics. The study employed a quantitative research design and adopted a positivist paradigm. The study employed a closed-ended questionnaire using a five-point Likert scale to collect data from the English department at Northern University. Simple random sampling, comprising 10 teachers and 100 students, was used in the present study. The data were analyzed using SPSS. The findings revealed that AI has both positive and negative impacts on the teaching and learning of English literature and linguistics at Northern University, Nowshera. The study concluded that, when using AI, a more sophisticated, simple, and pragmatic approach should be adopted to balance its positive and negative effects.

Keywords: Artificial Intelligence, Quantitative, Positivist, Questionnaire, Sampling

Title: A CRITICAL DISCOURSE ANALYSIS OF AGHA SHAHID ALI'S I SEE KASHMIR FROM NEW DELHI AT MIDNIGHT

Authors: Rashid Ali, Muhammad Anwar, Farman Ali Email: rashialibsenglish@gmail.com

Abstract

This paper conducts a critical discourse analysis of Shahid I See Kashmir from New Delhi at Midnight (2001). The main objective of this study is to analyze the discourse and uncover the underlying ideology of the poem that the poet is trying to construct through various poetic devices. The study employs a qualitative research design grounded in the constructivist paradigm. Fairclough's 3D model, also known as the social-cultural approach, serves as the theoretical framework for the present study. The text of the poem is used as the primary source of data for the analysis. The data is analyzed through Belsey's (2013) Textual Analysis model. The findings indicated that the Shahid's poem addresses the politics, culture, and emotions intertwined with the Kashmir dispute. The study concluded that Shahid's I See Kashmir from New Delhi at Midnight (2001) employs the art of poetry to craft a powerful critique of the oppression and death that the Indian state brings to Kashmir.

Keywords: CDA analysis, Fairclough's 3D model, Constructivist, Textual Analysis

Title: Identity, Anxiety, and the Discursive Construction of the Self: A Critical Discourse Analysis of Jaun Elia's "Yeh Mujhe Chain Kyun Nahin Parta"

Author: Iftikhar Ali, PhD Student NU Email: ielt8hazro@gmail.com

Abstract

This study offers a Critical Discourse Analysis (CDA) of Jaun Elia's poem "Yeh Mujhe Chain Kyun Nahin Parta" to examine how identity is discursively constructed through linguistic expressions of anxiety, negation, and self-interrogation. Using Fairclough's three-dimensional model, the analysis explores textual features, discursive practices, and socio-historical contexts that shape the poem's meaning. The findings demonstrate that Jaun Elia constructs a fragmented, restless, and ideologically resistant self that challenges stable notions of identity within classical Urdu poetic traditions. The poem foregrounds existential anxiety as a defining feature of modern postcolonial subjectivity, positioning the self as a site of continuous questioning rather than resolution. This study contributes to Urdu literary scholarship by establishing identity discourse as a central analytical lens for understanding Jaun Elia's modernist poetics.

Keywords: discourse, Discourse Analysis, existential anxiety, modernism

Title: Genre Analysis of First Information Report: Empowering Legal Professionals by Disempowering the Common Man

Author: Dr. Javid Iqbal (PhD in Linguistics & Literature from Air University Islamabad), Assistant Professor, Govt College Garhi Kapura Mardan, Email: javidiqbalemail@gmail.com

Abstract

The present study explores the First Information Report (FIR) as a super-genre of legal discourse. In recent years, the legal genre has been established with the effective role it plays in legal activities, especially in connection with the relationship between legal professionals and the common man. This study presents an analysis of the FIR based on different rhetorical moves followed in its drafting. The study is based on two levels of analysis: in the first level, Swales' theoretical framework (1990) has been used for identifying and classifying rhetorical moves and steps based on the subject matter and/or contents; in the second level, these rhetorical moves have been placed in Bhatia's model for Generic Integrity (2014). The resulting connections show that FIR is a supergenre in which the Moves integrate subgenres, moving from layperson to draftsman, the judiciary, and the legislature. The findings suggest that, in the dynamics of a layman-professional relationship, the draftsman who writes/documents the FIR as a professional plays a vital role in facilitating the empowerment of legal professionals at the expense of the disempowerment of the common man in society.

Keywords: FIR, rhetorical moves, generic integrity, legal discourse

Title: REIMAGINING MEMORY AND MORTALITY IN AI NARRATIVE(S): A POSTHUMANIST READING OF KAZUO ISHIGURO'S KLARA AND THE SUN

Author: NAZIA KHATTAK (241-NUN-0129) Email: naziakhattakggc@gmail.com

Abstract

The dissertation examines the presence of memory and mortality in artificial intelligence narratives through the posthumanist analysis of Kazuo Ishiguro's Klara and the Sun (2021). The study focuses on Klara, an Artificial Friend, and how memory, emotional attachment, and an understanding of obsolescence converge to shape posthuman identity in a technologically mediated society. Drawing on posthuman theory, particularly the concept of posthuman subjectivity introduced by N. Katherine Hayles, which reconceptualizes consciousness as distributed, embodied, and informational (rather than strictly biological), the research challenges anthropocentric assumptions that limit consciousness, empathy, and moral value to human beings. The analysis also examines how Ishiguro restructures mortality beyond biological death, offering it in new forms: erasure, technological displacement, and expendability. The study employs qualitative textual analysis and close reading to show that memory is an ethical and emotionally resonant ground that sustains subjectivity in the face of technological impermanence. The observational nature of Klara's mode of consciousness indicates the moral contradictions of a society that relies on artificial companions while simultaneously depriving them of permanence, autonomy, and ethical qualities. The findings suggest that Klara and the Sun is an essential intervention in modern AI fiction by reinstating memory and mortality as relational and posthuman states. Through this, the novel invites a radical re-evaluation of its ethical responsibility to artificial beings in a world increasingly characterized by intelligent technologies.

Keywords: Posthumanism, Artificial Intelligence, Identity, Ethical Anthropocentrism

Title: Observing Power, Authority, and Resisting Anthropocentrism: A Critical Discourse and Socio-Cognitive Analysis of Emily Dickinson's "The Bird Came Down the Walk"

Author: Aisha BiBi Email: aishabibi0912345@gmail.com

Abstract

Emily Dickinson's poem "The Bird Came Down the Walk" is frequently viewed as a serene nature lyric focused on perceptual awareness and psychological insight. This analysis, however, reinterprets the poem as a nuanced yet continuous critique of anthropocentrism. Using Critical Discourse Analysis through Fairclough's three-dimensional approach and van Dijk's socio-cognitive framework, the examination investigates how metaphors of violence, surveillance, paternalism, and flight convey the conflicts between human control and nonhuman autonomy. A detailed, line-by-line analysis uncovers the speaker's shifting mental models, revealing the fragility of human-centered beliefs regarding authority, understanding, and moral superiority. The bird's defiance against domestication and scrutiny ultimately challenges the speaker's epistemic power, highlighting the ethical constraints of human perception. By combining CDA with close reading techniques, this analysis positions Dickinson's poem as not only an artistic work but also a venue for ideological struggle, thereby broadening the use of CDA within the field of literary discourse analysis.

Keywords: Critical Discourse; Socio-Cognitive Model; Metaphor; Ideology; Anthropocentrism;

Title: COGNITIVE DISCOURSE ANALYSIS OF METAPHOR IN PAULO COELHO'S THE ARCHER

Author: Saif ul Islam Email: saif.mamoon212@gmail.com

Abstract

This research is titled Cognitive Discourse Analysis of Metaphor in Paulo Coelho's The Archer. The aim of this research is to investigate the purpose, discipline, and art of life using archery as a central metaphor. It explores the role of Coelho's metaphors within a cognitive discourse framework and the philosophical concepts of self-mastery, discipline, and the art of life in the novel The Archer (2020), as articulated through metaphors. The current research draws on cognitive metaphor analysis and the cognitive role of metaphors in Coelho's The Archer (2020), examining their function in structuring meaning. The present research is qualitative and follows the textual analysis method presented by Belsey (2013). The researcher has applied Kövecses (2002) Conceptual Metaphor Model for its analysis and will classify metaphorical language. The findings revealed that The Archer (2020) is a well-organized and coherent system in which every image is used to create a complete approach to the meaning of life. It all seems to fit together in the main message of LIFE IS ARCHERY, which reveals how effort and release, goal and patience, self and community all come together. This principle allows Coelho to make the physical art of archery a tale of moral and spiritual development. The bow is a symbol of life and vitality, the arrow is dreams and aspirations, and the mark of ultimate happiness is the fulfillment of the target. To prove the cognitive purposes of metaphor in modern literature, this work advances literary and linguistic studies. The insights acquired help one to better grasp how metaphor frames the mind, enhances literary significance, and enables interaction with philosophical ideas.

Keywords: Cognitive discourse analysis; Conceptual metaphor; Archery metaphor; Life philosophy; Self-mastery; Kövecses, Conceptual Metaphor Model.

Title: GENDERED LANGUAGE STUDY: THE EVALUATION OF GENDERED PRONOUNS IN CONTEMPORARY DISCOURSE

Authors: Sadia Sharif, Noureen Muneeb, Naila Razzaq,252-NUN-0331 Ph. D Linguistics Northern University KPK, Email: sadia.sharif@ue.edu.pk

Abstract

This study investigates the use and evaluation of gendered pronouns in contemporary discourse through the framework of Critical Discourse Analysis (CDA). Language plays a crucial role in shaping social identities and power relations, and pronouns function as significant linguistic markers of gender. With increasing awareness of gender diversity and inclusivity, pronoun usage has become a contested site of ideological struggle in media, education, and public discourse. Using selected contemporary texts, this research analyzes how gendered pronouns reflect, reinforce, or challenge traditional gender norms. The findings suggest that the pronoun choices are not merely grammatical but ideological, contributing to broader debates on gender identity, equality, and social change.

Keywords: gendered language, pronouns, discourse, Critical Discourse Analysis, gender identity

Title: LINGUISTIC SUBVERSIONS AND TRANSGENDER SUBJECTIVITY: HIJRA VOICE, SPACE, AND RESISTANCE IN ARUNDHATI ROY'S THE MINISTRY OF UTMOST HAPPINESS

Author: Humayoon Ali Shah Email: humayoonalishah256@gmail.com

Abstract

The current research, entitled Linguistic Subversions and transgender subjectivity hijra voice, space, and resistance in Arundhati Roy's The Ministry of Umost Happiness. This study examines the relationship between language, transgender identity, and resistance in Roy's The Ministry of Utmost Happiness (2017), and the way the subjectivity of hijras is described. This research is qualitative in nature and draws on close reading and Critical Discourse Analysis, as presented by Fairclough (1992) and Van Dijk (1998), to understand the mechanisms by which linguistic practices function as a resource for opposition to heteronormative, patriarchal, and state-endorsed discourses. The analysis of the novel using the three-dimensional CDA model, as suggested by Fairclough, is conducted across the textual, discursive, and social layers to elucidate the development of other identity forms, belonging, and power under the influence of language. The findings suggest that Roy actively works through standardized English with the assistance of multilingualism, code-switching, transliteration, narrative fragmentation, and strategic silence, which gave marginalized voices of Hijra, in particular that of Anjum, the confidence and strength to speak out. The research also reveals that the translanguaging process enables the creation of fluid, non-binary identities and that representations of space are counter-hegemonic sites of resistance and community, such as the Khwabgah and the graveyard. Their discursive read reestablishes the exclusion as empowerment to the social hierarchies

of domination. The qualitative close reading proves that the linguistic strategies of Roy are not only a reflection of the social reality but also a critique of the vast gender expectations and the ideological orders. Linguistic and spatial subversion through foregrounding Hijra voice reduces language to a political survival and resistance in the novel.

Keywords: Transgender, Resistance, CDA, Happiness, Identity

Title: EMBODIED MARGINS: INTERSECTIONAL QUEERNESS, RELIGION, AND CASTE IN ROY'S THE MINISTRY OF UTMOST HAPPINESS

Author: Rasheed Ahmad Email: go4rasheedahmad@gmail.com

Abstract

In this research, the author examined how queer identity is depicted in The Ministry of Utmost Happiness by Roy (2017), with particular attention to the character Anjum, a hijra of the third gender. This research tried to read the ways in which violence is placed on the body of Anjum through an analysis of the points of intersection between her marginalities, namely, gender, religion, and caste. The purpose of this research is to examine how Anjum's interrelated queerness constitutes a form of resistance to oppression in society. The research applied Crenshaw's (1989) intersectionality theory to examine the identity performed by Anjum and the ways in which the two themes of systemic oppression and intersectional erasure were woven into the text. This study sought to show how Anjum's identity as a troubled hijra challenged existing systems, thereby creating a radical space in which the boundaries between faith, caste, and gender are reformulated. Borrowing Anjum's location as an act of resistance and survival, this research opposed the South Asian Queer theory territory on the imperative task that intersectional methodologies perform within postcolonial critique concerning gender queer labor.

Keywords: Religion, Caste, marginalized, gender

Title: FEMINIST STYLISTIC ANALYSIS OF COELHO'STHE WITCH OF PORTOBELLO

Author: Fatima Kalsoom Email: khattakseerat@gmail.com

Abstract

This research entails a feminist stylistic analysis of Coelho's The Witch of Portobello (2007). The researcher aims to explore lexical, syntactic, and discourse patterns that shape gender norms, portray female autonomy, and influence Athena's voice and empowerment through a feminist approach. This study also analyzes The Witch of Portobello (2007), engaging with or challenging patriarchal ideologies through a feminist stylistics approach. The present research is qualitative and descriptive in nature. The researcher applied feminist theory (1995), as given by Mills and Belsey's (1980) Textual Analysis. The findings revealed that Coelho used lexically empowering words related to Athena, whom he presupposed to possess spiritual power, emotional intelligence, and independence. Syntactically, the use of varied narrative viewpoints and frequent declarative forms underscored Athena's assertiveness and self-identification, whereas the independence of voices challenged the narrative's conventional masculine dominance. The multi-voiced construction at the discourse level

undermined patriarchal norms, as the voices of marginalized groups, particularly women, were now able to construct the narrative's truth. The novel ultimately portrays Athena as an emblem of female independence whose transgressive identity defies social, religious, and gender hierarchies. This research was important because it contributed to the body of feminist stylistics research by illustrating ideological dissonance in literature through linguistic patterns. It gave students and researchers in language and literature a clearer understanding of how feminist stylistics can reveal suppressed meanings in narrative construction, characterization, and gendered power relations. Moreover, the research has focused on how Coelho's work, despite being written by a man, not only engaged with but also critiqued gender stereotypes of the time, thereby providing a compelling contribution to how empowered femininity is portrayed in the present. Moreover, the present study will help students of language and literature who seek to deepen their knowledge of feminist stylistics analysis. By showing how Coelho's work interacts with, and at times questions, prevailing gender stereotypes, the study contributes to the feminist debate.

Keywords: Feminist stylistics; Gender representation; Female empowerment; Lexical and

syntactic analysis; Patriarchal ideology.

Title: Eco-Stories of Decay: An Ecolinguistic Discourse Analysis of Environmental Metaphors in Arundhati Roy's The God of Small Things

Author: Hassan Muhammad, MPhil Scholar at the Department of English, Northern University Nowshera. Email: hassanmrz443@gmail.com

Abstract

This paper examines how environmental decay is discursively constructed in Arundhati Roy's The God of Small Things (1997), which uses metaphor and stylistic innovation. It aims (i) to identify and categorize dominant environmental metaphors depicting Ayemenem's landscape and the Meenachal River, and (ii) to explain how these metaphors build ecological meanings while critiquing anthropocentrism and intertwined social injustices. Using qualitative ecological discourse analysis, the study compiles a purposive corpus of metaphor-dense passages featuring river-scape descriptions, nonhuman agency, and juxtapositions of nature and modernity. Data are collected through iterative close reading and excerpting with page-referenced documentation; analysis operationalises Stibbe's "Stories We Live By" toolkit (ideology, framing, metaphor, evaluation, identity, conviction, erasure, salience) to code recurring patterns and synthesize ecological "storylines." Findings indicate that Roy's metaphors and neologisms (e.g., tainted greens, shrinkage, boundary-blurring growth) consistently align ecological degradation with moral and political collapse, foregrounding nature as an active agent that exposes the costs of development and hierarchy.

Keywords: Ecolinguistics, Ecological Discourse Analysis, Environmental Metaphor,

Postcolonial Ecocriticism

Title: A CRITICAL LINGUISTIC ANALYSIS OF MOHSIN HAMID'S "THE LAST WHITE MAN": POWER, IDENTITY AND VOICE IN FICTION

Author: Sonia Bibi, Lecturer, English, COMSATS University Islamabad, Attock Campus , Email: sbk99956@gmail.com

Abstract

This study provides a thorough linguistic and Critical analysis of Mohsin Hamid's The Last White Man (2022). The researcher analyzes the author's and characters' use of language, lexical choices, and other linguistic devices to demonstrate how these are employed as a tool to shape the characters' voices, identities, and authority. The researcher uses a qualitative method by employing Norman Fairclough's 3 Dimensional Model of Critical Discourse Analysis (1990) as a theoretical framework to expose the hidden meanings embedded in characters' psychology and language. By analyzing their utterances and lexical choices at 3 levels, the researcher comes to the conclusion that language has become a crucial and ideological tool in the hands of discourse producers to propagate ideologies and construct meaning and reality, which is a mediated version of reality and views language as an ideological tool to construct, reflect, and mediate identities and realities. The study demonstrates, while adopting a qualitative research design, how the writer and characters use different words and sentences to express deeper meaning, establish power, strengthen or weaken an identity, marginalize the voices of the downtrodden black class, and give privileges to the dominant class. Hence, it is proven that language does not serve as a neutral medium of expression, but rather it works as a biased tool to construct, reflect, and maintain power. It is recommended for future researchers to apply Fairclough's 3D model on different literary, media and political discourse to highlight and reveal the contextual and ideological tendencies of discourse producers who use language to serve their interest and interpellate discourse consumers to perceive themselves in particular social role and identity without them realizing the harmful effect of language on their mind that they are being intentionally positioned in this particular identity and consequently they internalize these realities unintentionally.

Keywords: Lexical, 3D, power, identity, CDA.

Title: MODIFYING THE MIND: A CORPUS-BASED STUDY OF ADJECTIVAL AND ADVERBIAL METAPHORS IN THE SELECTED POEMS OF ROBERT FROST

Author: JAMIL KHAN NU student email: Jamilkhan139870@gmail.com

Abstract

The research is titled, Modifying the mind: A corpus-based study of Adjectival and Adverbial metaphors in the selected poems of Robert Frost. This study analyzes the depth of meaning in Robert Frost's poetry through the metaphorical use of adjectives and adverbs. It aims to identify the frequency of these metaphors and evaluate their role in shaping the poet's thematic and emotional expression. Using Conceptual Metaphor Theory (1980) given by Lakoff & Johnson as the theoretical framework that studies metaphors in depth to understand the abstract concept in a systematic way. Adopting Mix Research Methodology, corpus-based approach, in which the Quantitative phase lists the Adjectival and Adverbial metaphors in the poems under consideration, and the Qualitative phase puts on the contextual meaning of the words. This research explores how frequently Frost employs

metaphorical adjectives and adverbs to convey emotions, philosophical reflections, and human experiences. The insights acquired help readers better understand how these metaphors shape meaning and themes in Robert Frost's poetry.

Keywords: Corpus-based, modifying, Thematic, Adjectival, Adverbial

Title: REPRESENTATION OF US ELECTION IN PAKISTANI ENGLISH NEWSPAPERS: A CORPUS ASSISTED CRITICAL DISCOURSE ANALYSIS

Author: RASHEED AHMAD, M.Phil Scholar, NORTHERN UNIVERSITY NOWSHEHRA Email: go4rasheedahmad@gmail.com

Abstract

This study explores the representation of power dynamics and the discursive strategies used in the Pakistani English Newspapers under the Corpus Assisted Critical Discourse Analysis of the US Election (2024) in Selected Pakistani English Newspapers. The aim of the study is to examine the impact of the 2024 U.S. election on readers' ideological orientations, in the context of Pakistan's relations with the U.S., and the discourse used to communicate these views to the world. The study follows the methodological synergy of corpus analysis and critical discourse analysis. It analyses corpora of editorials from three leading Pakistani English newspapers, i.e., Daily Dawn, The News, and The Express Tribune. The information gathered through corpus linguistics, using the Sketch Engine to identify keywords, collocations, and concordances, is analyzed qualitatively. The socio-cognitive model of Van Dijk (2001) is applied to analyse the data, combining social and cognitive perspectives within Critical Discourse Analysis (CDA). Close reading of Editorials from three leading Pakistani English newspapers supported by the identification of dominant keywords, collocations, and concordance patterns. The study aims to identify the language used to raise public awareness of US-Pakistan relations and of the local response to the 2024 US election.

Keywords: Critical Discourse Analysis, Election, Cognitive, Election

Title: Language, Power, and Transracial Identity: A Critical Discourse Analysis of Florence Olajide's Coconut

Author: Iqra Aziz (student of phD English Linguistics) email: iqraaziz.northern1999@gmail.com

Abstract

This study critically investigates the intersections of language, power, and transracial identity in Florence Olajide's Coconut (2021) through the theoretical lenses of Antonio Gramsci's concept of hegemony and Homi K. Bhabha's concept of hybridity. Applying a qualitative research approach, the study employs Fairclough's 3D model as a methodological tool of Critical Discourse Analysis to analyse textual, discursive, and social practices of the memoir. The study highlights how linguistic choices, narrative structures, and institutional discourses shape, reproduce, and challenge predetermined racial ideologies within the context of transracial fostering in postcolonial Britain. By situating the memoir within discourses of cultural contexts, the study illustrates how language functions as a tool of hegemonic control and enacts a counter-hegemonic narrative that challenges agency and power dynamics. Ultimately, the study focuses on hybridity as the emergence of a third space in which identity is transracialized by experiences of cultural dislocation and identity fragmentation. The study contributes to existing research on Critical Discourse Analysis, postcolonial

narratives, and transracial studies by linking to postcolonial studies. The 2020 work of Coconut (2021) serves as a powerful direction for ideological reproduction.

Keywords: Transracial identity, Hegemony, Hybridity, Fairclough 3D model, Critical Discourse Analysis

Title: Critical Discourse Analysis of Imran Khan's 2019 Speech at the United Nations on Global Peace.

Author: Shujaat Ali Email: alishujaat234@gmail.com

Abstract

Many leaders delivered political speeches at the United Nations General Assembly to promote global peace. Former Prime Minister Imran Khan is one of the most prominent figures in Pakistani politics. He delivered a remarkable speech at the UNGA on September 26, 2019, addressing global peace. This speech was delivered in front of the most responsible leaders from the pulpit of the United Nations General Assembly. This was a significant and remarkable speech because of the word choices and discourse. He employed rhetorical devices and powerful language to communicate his message to the world. The objective of this research paper is to critically analyze the speech of the ex-prime minister of Pakistan (Imran Khan) on global peace delivered at the UNGA in order to uncover the hidden meaning in the discourse, related to the most pressing problem of the world, global peace, which is a common issue of the globe. This study employs a qualitative research method, applying Norman Fairclough's three-dimensional model of CDA to examine speech from three perspectives, including the textual dimension, which describes the text from a textual perspective. Discursive dimension: to interpret the text/discourse. Social-cultural dimension: to explain the text/discourse. Findings of the speech to challenge the world powers and dominant Nations, especially the world forum UNGA, the United Nations General Assembly, through his discourse that they have failed to maintain peace in the globe. He used strategic and powerful language to instruct the international powers regarding global peace. The analysis of this speech constructs a narrative through the discourse of Imran Khan's address to the United Nations General Assembly. He constructed a narrative in which global peace is a common problem for all nations, and the United Nations General Assembly is held responsible for taking adequate measures to address this pressing issue. The former Prime Minister further stated in this political speech that the United Nations General Assembly is the most powerful pulpit for world leaders. It is further recommended that future researchers draw on national and international speeches for their research and analyze the discourse of political leaders through the lens of critical discourse analysis, applying the three-dimensional model of Norman Fairclough.

Keywords: Discourse Analysis, United Nations, Political, CDA

Title: A FEMINIST CRITIQUE OF PATRIARCHAL HEGEMONY AND IDEOLOGICAL DISCOURSE IN RUM'S A WOMAN IS NO MAN

Author: Tariq Mehmood Email: tariqmkhalid@gmail.com

Abstract

The language has consistently been utilised as a potent weapon in creating, maintaining, and reproducing the power structure, even in societies that apparently look liberal and progressive. This study evaluates the patriarchal restrictions on women's access to education and analyzes how

patriarchy normalizes women's financial dependence on men in Rum's A Woman is No Man. The study is qualitative. The researcher employed Fairclough's Three-dimensional model of critical discourse analysis to analyze the selected text, and Lazar's feminist critical discourse analysis served as the theoretical framework. The findings reveal that the ideological discourse sustains gender-based power imbalances and rationalizes the restriction of women's access to education and financial self-sufficiency. Cultural norms and societal discourse intersect to restrict women's access to education within a patriarchal Arab society, and the patriarchal culture normalizes women's financial dependence on men, which reinforces the patriarchal hegemony. The community's discourse discourages women from pursuing educational and career ambitions, with social consequences for those who challenge these norms. The study underscores the need for a more comprehensive examination of the challenges faced by women, particularly with respect to education and financial independence, in societies that may appear outwardly liberal.

Keywords: FCDA, patriarchy, hegemony, ideology, discourse

Title: SPEECH ACTS AND SILENCED SELVES: A PRAGMATIC- FEMINIST STUDY OF ILLOCUTIONARY FORCE IN FEMALE DIALOGUE IN TEHMINA DURRANI'S MY FEUDAL LORD

Author: Ujala **Email:** ujalaakhan009@gmail.com

Abstract:

This research is entitled Speech Acts and Silenced Selves as a Pragmatic-Feminist Study of Illocutionary Acts in Female Dialogue in Pakistani Autobiographical Novel My Feudal Lord by Tehmina Durrani, using the lens of Speech Act Pluralism. The study explores the illocutionary force of female discourse, examining women's speech as an indicator of emotional conflict, opposition, and identity within a patriarchal society. The theoretical framework used in the analysis, Feminist Pragmatics, and the analytical tool Speech Act Pluralism help examine how utterances, even single ones, have numerous strands of meaning that remain informed by fear, constraint, and cultural norms. A Concurrent mixed-methodology was used. The textual analysis model by Catherine Belsey (2013) was used to understand the underlying ideological and emotional implications of women's speech, whereas the content analysis model by Berelson (1952) provided quantitative data on speech-act patterns. The novel was sampled to obtain a purposive sample of female dialogues. Every utterance was analyzed according to the type of illocutionary act: assertive, expressive, directive, commissive, and declarative, and for multiple functions that it achieved depending on the context. It has been found that female speech in My Feudal Lord is multifaceted, stratified, and situational. Women's words serve as a manifestation of emotional survival, low-key resistance, and identity negotiation. Their voices reveal the psychological and social effects of patriarchy, and the way language becomes a burden and a sort of agency at the same time. The study contributes to feminist literary studies and practical analysis by illustrating how women's interactions in South Asian autobiographical literature expose more troubling voices, greater freedom, and more self-identification.

Keywords: Pragmatic, Illocutionary, Pluralism, Identity, Feminist

Title: Lexicalized Autonomy of Desire and Survival: A Feminist Stylistic and Cognitive Metaphor Analysis of Female Independence and Prostitution in Coelho's Novel "*Eleven Minutes*"

Author: Adnan Jamshaid M.Phil. English, Northern University Nowshera, Khyber Pakhtunkhwa, Pakistan. Email: taqweemadnan@gmail.com

Abstract

The speech of independence reshapes the choice of moral grammar. Maria Coelho's protagonist of the novel "Eleven Minutes" is in search of true love and adventure, which transpires into prostitution. Implied language presents readers with prostitutional diction, metaphorical conceptualization, and gendered stylistic choices throughout the narrative's development. This qualitative research article aims to investigate the contributions of prostitutional linguistic construction and female independence by integrating Cognitive Metaphor Theory and Feminist Stylistics, thereby shaping the struggle between constraint and autonomy. The study also extends the analysis beyond fiction, examining contemporary discourse about modern independent women, who are deemed doomed to childlessness and singleness, and its resonance with contemporary gender debates in Coelho's *Eleven Minutes*. A study has explored the language mediation, which has normalized prostitution for the construction of independence in the shape of sacrifice and empowerment by examining stylistic patterns and lexical choices legitimizing prostitution as both choice and work. There is an observable discursive negotiation through transitivity, modality, and evaluative language, with recurring cognitive metaphors that frame freedom, prostitution, and the female body. Feminist stylistic markers reveal tensions between exploitation and self-determination, while the conceptual metaphors maintain homeostasis between relational and emotional loss. Dominant conceptual metaphors such as freedom as transition, sex as labour, and body as capital have been explored through Lakoff and Johnson's Cognitive Metaphor Theory. The findings suggest that Coelho's Eleven Minutes linguistically frames independence as empowerment, encoding freedom within the metaphorical and economic structures of isolation, exchange, and emotional repression. The study concludes that modern feminist discourse and Eleven Minutes are problematic and reflect contemporary ideals of female independence through cognitive and stylistic mechanisms that construct gendered experiences of loss, struggle, and autonomy.

Keywords: Feminist Stylistics; Cognitive Metaphor Theory; Prostitution; Independence.

Equity in Classroom Discourse: Gendered Participation Patterns and Their Impact on Student Learning Confidence

Nasim Ullah
Email: naseemduke77@gmail.com

Abstract

This study examines how gendered patterns of participation in whole-class discussions shape students' perceived learning confidence in secondary school humanities classrooms. Despite pedagogical commitments to equitable dialogue, disparities in classroom discourse persist, particularly in the frequency, duration, and recognition of student contributions. Using a mixed-methods approach, the study combines quantitative discourse analysis with qualitative self-report data to explore the relationship between participation patterns and learning confidence. Fifteen whole-class discussions from Grade 9–10 classrooms were audio-recorded,

transcribed, and coded for participation frequency, turn length, and interruption rates by gender. In addition, pre- and post-discussion surveys and student focus groups were used to assess changes in students' confidence in argumentation skills and conceptual understanding. Preliminary findings indicate that male students disproportionately dominate classroom talk, receiving more frequent and longer turns, while female students experience higher interruption rates and reduced teacher uptake of their contributions. Survey data reveal a significant gender gap in learning confidence, particularly in students' perceptions that their ideas are valued by peers and instructors. These findings suggest that equitable learning outcomes require more than equal opportunities to speak; they necessitate intentional discourse structures that challenge entrenched gendered interactional norms. This study contributes to critical pedagogy by empirically linking micro-level interactional dynamics with broader issues of equity, participation, and self-efficacy in classroom learning.

Keywords: Equity in Discourse, Gender and Education, Classroom Participation, Whole-Class Discussion, Learning Confidence, Interactional Dynamics, Critical Pedagogy, Student Voice, Self-Efficacy

Embodied Margins: Intersectional Queerness, Religion, and Caste in Roy's *The Ministry of Utmost Happiness*

Muhammad Bilal
Email: bilalkhan507507@gmail.com

Abstract

This study examines the representation of queer identity in Arundhati Roy's *The Ministry of Utmost Happiness* (2017), with particular focus on the character of Anjum, a third-gender hijra. The research explores how violence is inscribed upon Anjum's body through the intersecting structures of gender, religion, and caste. Drawing on Kimberlé Crenshaw's (1989) theory of intersectionality, the study analyzes the ways in which Anjum's identity is performed and negotiated within systems of systemic oppression and intersectional erasure. The paper argues that Anjum's embodied queerness functions not merely as marginalization but as a form of resistance that disrupts dominant socio-cultural hierarchies. By foregrounding Anjum's positionality, the study demonstrates how Roy creates a radical space where the rigid boundaries of faith, caste, and gender are reimagined and reformulated. Situating the analysis within postcolonial and South Asian queer theoretical frameworks, the research emphasizes the critical role of intersectional methodologies in understanding gender-queer labor, survival, and resistance in postcolonial contexts.

Keywords: Intersectionality, Queer Identity, Hijra, Gender and Sexuality, Religion and Caste, Postcolonial Literature, South Asian Queer Theory, Arundhati Roy

Suppression of Women: A Sociological and Psychological Perspective on Gender-Based Violence

Malaika Khan[1]*, Nosheen Amanat Khan[1]*, Syeda Nafisa[1]*, Iqra Mushtaq[1]*, Muhammad Ahsan Ali[1]*, Momina Khattak[2]**

[1] Department of English, Division of Science and Technology,
University of Education, Lahore 54770, Pakistan

* All authors contributed equally to this research
** Corresponding Author

Email: malaika2373@gmail.com

Abstract

This study examines the role of language in shaping and sustaining gender-based violence in everyday social practices. It argues that the socially constructed portrayal of women as vulnerable and inferior—reinforced through linguistic practices—serves as a key trigger for their victimization. Such suppression not only contributes to psychological distress among women but also limits their participation in the development of a balanced and inclusive society. The research further highlights how underreporting of gender-based violence exacerbates the issue, largely due to social stigma and familial pressure. Employing a mixed-methods approach, quantitative data were collected through an online survey of 104 participants using binary (yes/no) and neutral response options. Qualitative data consisted of two semi-structured interviews: one with a professional lawyer offering insight into societal and legal dimensions of gender-based violence, and another presenting a detailed narrative of a survivor's experience. The survey findings revealed strong agreement with reported cases of domestic and emotional violence, underscoring the role of language in perpetuating women's oppression and subjugation. The study advocates for linguistic and discourse-oriented interventions as essential tools for exposing and challenging gendered power inequalities.

Keywords: Gender-Based Violence, Psychological Disorders, Domestic Violence, Gender Stereotypes, Power Inequality

Lexicalized Autonomy of Desire and Survival: A Feminist Stylistic and Cognitive Metaphor Analysis of Female Independence and Prostitution in Coelho's *Eleven Minutes*

Adnan Jamshaid
M.Phil. English, Northern University, Nowshera, Khyber Pakhtunkhwa
Email: taqweemadnan@gmail.com

Abstract

This qualitative study examines the linguistic construction of female independence and prostitution in Paulo Coelho's novel *Eleven Minutes* through the combined frameworks of Feminist Stylistics and Cognitive Metaphor Theory. The novel's protagonist, Maria, whose search for love and adventure gradually leads her into prostitution, provides a rich site for analyzing how autonomy, desire, and survival are discursively negotiated. The study investigates how prostitutional diction, metaphorical conceptualizations, and gendered stylistic choices reshape moral grammar and frame independence as both empowerment and sacrifice. Extending beyond literary analysis, the research also engages with contemporary discourse surrounding modern independent women—particularly narratives of singleness and childlessness—to situate the novel within current feminist debates. Drawing on Sara Mills' Feminist Stylistics, the analysis explores agency assignment, lexical selection, modality, narrative voice, and body representation to uncover gendered power relations. Lakoff and Johnson's Cognitive Metaphor Theory is employed to identify dominant metaphors such as *freedom as transition*, *sex as labour*, and *body as capital*, which structure the representation of autonomy and exploitation. The findings suggest that *Eleven Minutes* linguistically frames independence as empowerment while embedding freedom within metaphorical and economic structures of exchange, isolation, and emotional repression. The study concludes that both the novel and contemporary feminist discourse problematically construct female independence through cognitive and stylistic mechanisms that encode experiences of loss, struggle, and constrained autonomy.

Keywords: Feminist Stylistics, Cognitive Metaphor Theory, Prostitution, Female Independence, Gendered Discourse

From Sectarian Labels to Ummah Identity: A Critical Discourse Analysis of Contemporary Islamic Scholars' Instagram Reels

Nayla Razzaq
Northern University, Nowshera, Pakistan
Email: nayla_razzaq@yahoo.com

Wasim Ibrahim
BUITEMS, Quetta, Pakistan
Email: wasimibrahimgujjar@gmail.com

Abstract

Sectarian labels have long shaped religious identity debates in Pakistan. With Instagram Reels emerging as a prominent medium of religious communication, contemporary Islamic scholars increasingly employ short-form video content to frame Muslim identity beyond sectarian affiliations. This shift warrants critical examination, particularly in relation to how younger audiences interpret unity, difference, and religious authority. This study investigates how Pakistan-based Islamic scholars reconstruct an Ummah-centered identity through Instagram Reels and how sectarian boundaries are discursively diminished or reframed. Employing Critical Discourse Analysis (CDA) within a multimodal framework, the study analyzes a sample of 30 Instagram Reels produced by Sahil Adeem, Sheikh Atif Ahmed, Dr. Waseem, Dr. Hammad Lakhvi, Muhammad Ali, and archival or reposted clips of Dr. Israr Ahmad. The dataset includes spoken discourse, captions, on-screen text, hashtags, and selected high-engagement comments. Fairclough's three-dimensional model is applied to examine textual features, discursive practices, and broader social practices related to sectarian history, religious authority, and digital religiosity in Pakistan. The findings reveal that unity is constructed through inclusive Ummah-oriented pronouns, de-labelling strategies that privilege "Muslim" over sectarian identities, moral evaluations framing sectarianism as *fitnah*, and authority claims grounded in Qur'anic and Prophetic references. However, audience comment sections often reintroduce sectarian positioning, indicating that unity discourse is both embraced and contested. The study concludes that while Instagram Reels enable scholars to promote an emotionally resonant Ummah identity, platform dynamics and audience polarization can simultaneously reproduce the boundaries such discourse seeks to dissolve.

Keywords: Critical Discourse Analysis (CDA), Instagram Reels, Ummah Identity, Sectarianism, Digital Religion

Lexicalized Autonomy of Desire and Survival: A Feminist Stylistic and Cognitive Metaphor Analysis of Female Independence and Prostitution in Coelho's *Eleven Minutes*

Adnan Jamshaid
M.Phil. English, Northern University, Nowshera, Khyber Pakhtunkhwa, Pakistan
Email: taqweemadnan@gmail.com

Abstract

The discourse of independence reshapes moral choice and ethical positioning within gendered narratives. Maria, the protagonist of Paulo Coelho's *Eleven Minutes*, embarks on a quest for love and adventure that gradually leads her into prostitution, offering readers a complex representation shaped by prostitution-related diction, metaphorical conceptualization, and gendered stylistic choices. This qualitative study investigates how linguistic constructions of prostitution intersect with representations of female independence by integrating Feminist Stylistics and Cognitive Metaphor Theory to examine the tension between autonomy and constraint. Extending beyond literary analysis, the study also engages with contemporary discourse surrounding modern independent women, particularly narratives of singleness and childlessness, to situate the novel within current gender debates. The analysis explores how language mediates and normalizes prostitution as both sacrifice and empowerment through stylistic patterns and lexical choices that legitimize it as choice and labor. Discursive negotiations emerge through transitivity, modality, and evaluative language, alongside recurring cognitive metaphors framing freedom, prostitution, and the female body. Drawing on Sara Mills' Feminist Stylistics, the study uncovers gendered power relations through agency assignment, narrative voice, lexical selection, modality, and body representation. Dominant conceptual metaphors—such as *freedom as transition*, *sex as labour*, and *body as capital*—are examined using Lakoff and Johnson's Cognitive Metaphor Theory. The findings suggest that *Eleven Minutes* linguistically frames independence as empowerment while embedding freedom within metaphorical and economic structures of exchange, isolation, and emotional repression. The study concludes that both the novel and contemporary feminist discourse problematically construct female independence through cognitive and stylistic mechanisms that encode gendered experiences of struggle, loss, and constrained autonomy.

Keywords: Feminist Stylistics; Cognitive Metaphor Theory; Prostitution; Female Independence; Gendered Discourse

From Sectarian Labels to Ummah Identity: A Critical Discourse Analysis of Contemporary Islamic Scholars' Instagram Reels

Nayla Razzaq
Northern University, Nowshera, Pakistan
Email: nayla_razzaq@yahoo.com

Wasim Ibrahim
BUITEMS, Quetta, Pakistan
Email: wasimibrahimgujjar@gmail.com

Abstract

Sectarian labels have long shaped religious identity debates in Pakistan. With Instagram Reels emerging as a prominent platform for religious communication, contemporary Islamic scholars increasingly employ short-form video content to frame Muslim identity beyond sectarian affiliations. This shift warrants critical examination, particularly in relation to how younger audiences interpret unity, difference, and religious authority. This study investigates how Pakistan-based Islamic scholars reconstruct an Ummah-centered identity through Instagram Reels and how sectarian boundaries are discursively diminished or reframed. Employing Critical Discourse Analysis (CDA) within a multimodal framework, the study analyzes a sample of 30 Instagram Reels produced by Sahil Adeem, Sheikh Atif Ahmed, Dr. Waseem, Dr. Hammad Lakhvi, Muhammad Ali, and archival or reposted clips of Dr. Israr Ahmad. The dataset includes spoken discourse, captions, on-screen text, hashtags, and selected high-engagement comments. Fairclough's three-dimensional model is applied to examine textual features, discursive practices, and broader social practices related to sectarian history, religious authority, and digital religiosity in Pakistan. The findings reveal that unity is constructed through inclusive Ummah-oriented pronouns, de-labelling strategies privileging "Muslim" over sectarian identities, moral evaluations framing sectarian conflict as *fitnah*, and authority claims grounded in Qur'anic and Prophetic references. However, audience comment sections frequently reintroduce sectarian positioning, indicating that unity discourse is simultaneously embraced and contested. The study concludes that while Instagram Reels enable scholars to project an emotionally resonant Ummah identity, platform dynamics and audience polarization may also reproduce the boundaries such discourse seeks to soften.

Keywords: Critical Discourse Analysis (CDA), Instagram Reels, Ummah Identity, Sectarianism, Digital Religion

Educational Discourse: Analysis of Classroom Interactions to Understand How Language Influences Learning Outcomes

Muhammad Saqib
Ph.D. English Scholar, Northern University, Nowshera, Pakistan

Email: sakikhan417@gmail.com

Abstract

This study examines the relationship between classroom interaction and the language used by students, exploring how discourse shapes learning outcomes. Classroom talk is conceptualized as both a means and an end in fostering understanding, participation, and knowledge construction. By analyzing teacher–student and student–student interactions, the research investigates how questioning strategies, feedback, instructional language, and classroom management influence learners' cognition and linguistic development. Adopting a qualitative, discourse-based approach, the study identifies patterns of interaction that either enable or inhibit learning. Findings indicate that dialogical, interactive, and inclusive language practices enhance deeper understanding, student engagement, and higher-order thinking, whereas authoritative, monologic discourse tends to restrict cognitive development and participation. The study underscores the critical role of language in shaping educational experiences and informs pedagogical strategies that promote equitable and effective classroom learning.

Keywords: Educational Discourse, Classroom Interaction, Language and Learning, Teacher–Student Interaction, Discourse Analysis, Pedagogical Strategies

Exploring Students' Perceptions of Blended Learning Modalities in English Language Education

Laraib Khan
Research Scholar, Abbottabad University of Science and Technology, Pakistan
Email: laraibkhan6028@gmail.com

Shahab Sahil
Lecturer, Abbottabad University of Science and Technology, Pakistan
Email: shahabsahil6@gmail.com

Abstract

This study examines university students' perceptions of blended learning interventions in English Language Teaching (ELT) and their implications for pedagogical equity in resource-constrained regions of Pakistan. Using a quantitative survey of 350 participants, the research investigates learners' experiences with skill development, engagement, accessibility challenges, and the integration of digital learning tools. Findings indicate that blended learning supports the enhancement of speaking and writing skills while simultaneously highlighting challenges related to digital literacy, internet access, and low engagement. By foregrounding the voices of students from underrepresented regions, the study emphasizes the potential of

blended ELT to mitigate infrastructural inequities and promote inclusive pedagogical practices. The research advocates for the re-conceptualization of blended learning not merely as hybrid delivery, but as a mechanism to support marginalized learners, address the digital divide, and foster equitable educational opportunities through technology-aware innovations.

Keywords: Blended Learning, Students' Perceptions, Digital Literacy, Learner Engagement, English Language Teaching (ELT)

Transforming Language Learning Through GenAI-Enabled Digital Storytelling

Shahabullah
Email: shahabsahil6@gmail.com

Alveena Farooq
Email: alveenafarooq42@gmail.com

Abstract

This study investigates the potential of digital storytelling, enhanced by Generative AI (GenAI), as a method for teaching English in multilingual higher education contexts in Pakistan. The research explores how the integration of digital storytelling with GenAI tools can improve vocabulary acquisition, grammatical accuracy, error correction, and sentence construction. Employing an experimental pre-test/post-test design, two intact undergraduate groups were selected: an experimental group using AI-assisted multimodal narrative creation and a control group following traditional teacher-centered instruction. Over an eight-week intervention, the experimental group demonstrated significant improvements across all measured language dimensions, while the control group showed limited progress. The findings are contextualized within Multiliteracies (Spaliviero & Serragiotto, 2025), Sociocultural Theory (Essien et al., 2024), and Critical AI frameworks (Wang & Wang, 2025), highlighting the ways AI-enabled storytelling promotes authentic language use, learner agency, and multimodal literacy. The study concludes that GenAI-supported digital storytelling holds significant pedagogical and sociocultural value for English language education in Pakistan.

Keywords: English Language Teaching, Digital Storytelling, Generative AI, Multiliteracies, Multimodal Composition, Pakistani Higher Education

Equity in Discourse: Analyzing Gendered Patterns of Participation in Whole-Class Discussion and Their Effects on Learning Confidence

Abstract

This study explores the relationship between gendered patterns of participation in whole-class discussions and students' perceived learning confidence among first- and second-semester learners in humanities classrooms. Despite pedagogical commitments to equitable classroom dialogue, the findings indicate that disparities persist, particularly in the frequency and nature of participation between male and female students. Adopting a mixed-methods research design, the study employs quantitative discourse analysis to examine participation frequency, turn length, and interruption rates across genders, alongside qualitative data derived from student surveys and focus group discussions assessing self-reported confidence levels. Fifteen classroom audio recordings (Grades 9–10) were transcribed and systematically coded, and pre- and post-discussion questionnaires were administered to evaluate changes in students' confidence regarding argumentation and perceived communicative competence. Preliminary analysis reveals that male students tend to dominate classroom airtime, receive more frequent and extended turns, and experience fewer interruptions, whereas female students' contributions are more often interrupted or insufficiently acknowledged by instructors. Survey findings further associate these interactional patterns with a pronounced gender gap in learning confidence, particularly in students' perceptions that their ideas are valued by peers. The results underscore that genuine educational equity requires educators to move beyond merely providing opportunities for participation toward implementing discourse practices that actively disrupt entrenched gendered interactional norms. This paper contributes to critical pedagogical scholarship by offering empirical evidence linking micro-level interactional dynamics to macro-level issues of equity and learner self-efficacy in classroom settings.

Keywords: Equity in Discourse, Gender, Participation Patterns, Learning Confidence, Pedagogy, Interactional Dynamics

Enhancing Blended ELT through Inclusive and Context-Responsive Digital Pedagogies

Laraib Khan, laraibkhan6028@gmail.com
Shahabullah, shahabsahil6@gmail.com

Affiliation: Abbottabad University of Science and Technology

Abstract

This study demonstrates how a series of systematically designed blended learning interventions in English Language Teaching (ELT) function as a significant pedagogical strategy for addressing educational inequities in resource-constrained regions of Pakistan—an important and underexplored frontier for equity-oriented educational innovation. Employing a quantitative research design, the study examines university students' perceptions of blended learning, with particular emphasis on language skill development, learner engagement, accessibility challenges, and the role of digital technologies in ELT. Data were collected through a survey administered to 350 participants. The findings indicate notable benefits for speaking skills and measurable improvement in writing proficiency, alongside persistent challenges related to digital literacy, limited internet access, and reduced learner engagement. By foregrounding student perspectives from underrepresented regions, the study underscores the urgent need to reconceptualize blended ELT not merely as a hybrid mode of content delivery, but as a pedagogical framework capable of supporting learners facing infrastructural constraints. The study further highlights the necessity for inclusive, realistic, and technology-aware pedagogical innovation to mitigate the digital divide and re-center marginalized voices within English language education at a global level.

Keywords: Blended Learning; Students' Perceptions; Digital Literacy; Learner Engagement; ELT

Expository Strategies and Thematic Foreshadowing in Bapsi Sidhwa's *Water* and *Ice-Candy Man*

Author: Laiba
Email: Laibayaseen333@gmail.com

Abstract

This study examines the exposition strategies employed by Bapsi Sidhwa in *Water* (2006) and *Ice-Candy Man* (1988) to introduce characters, settings, and central conflicts that foreshadow the overarching thematic concerns of both narratives. Adopting a qualitative interpretive approach, the research focuses on the expository sections of *Ice-Candy Man* and *Water*, guided by Chatman's Structuralist narrative theory. The analysis centers on how narrative form and discourse function to introduce and organize the key thematic structures of the novels. The findings reveal that the exposition in *Water* positions the widow ashram as both a literal and symbolic space of isolation, where patriarchal authority, religious orthodoxy, and economic exploitation intersect. The enforced widowhood of Chuyia serves as a dramatization of the cultural erasure of women and situates individual suffering within a broader context of collective and communal trauma. In *Ice-Candy Man*, the expository scenes portray the fragile multicultural fabric of Lahore through the perspective of the child narrator, Lenny, where even seemingly innocent images—such as the circle of Ayah's admirers—conceal underlying tensions of desire, possession, and communal hostility. The exposition further anticipates Ayah's commodification and eventual abduction, thereby linking the vulnerability of women's bodies to the political violence of Partition. Overall, Sidhwa strategically embeds major thematic concerns within the expository sections of both novels, including gender oppression, the erosion of childhood innocence, religious domination, the transformation of desire into ownership, fragile communal cohesion, and the formative presence of impending violence and historical trauma.

Keywords

Bapsi Sidhwa; *Water*; *Ice-Candy Man*; Exposition; Narrative Strategy; Thematic Analysis; Gender Oppression; Childhood Innocence; Partition; Patriarchy; Historical Trauma

The Role of the Health Belief Model in Trauma Recovery: A Study of Gayle Forman's *I Was Here*

Author: Kaleem Ullah
Email: KaleemKhan8180@gmail.com

Abstract

This study examines the applicability of the Health Belief Model (HBM) as a psychological framework for understanding trauma recovery in literary narratives, with specific reference to Gayle Forman's novel *I Was Here* (2015). The research investigates how the core constructs of the HBM—perceived susceptibility, perceived severity, perceived benefits, perceived barriers, cues to action, and self-efficacy—illuminate the psychological journey of the protagonist, Cody Reynolds, as she moves from grief, guilt, and emotional paralysis toward self-awareness, resilience, and healing. Although the HBM is conventionally employed within health psychology to explain preventive and health-related behaviors, this study adapts the model as an analytical lens for interpreting emotional and cognitive recovery as represented in trauma fiction. Adopting a qualitative interpretive methodology, the research integrates trauma theory with the Health Belief Model to conduct a close textual analysis of the novel. Primary data consist of selected scenes and textual excerpts that depict Cody's psychological development, while secondary data are drawn from peer-reviewed scholarly literature in psychology, trauma studies, and health behavior research. The analysis explores the dynamic interaction between belief systems, cognition, and motivation in the process of trauma recovery, demonstrating how Forman's narrative translates abstract psychological concepts into lived human experience. The findings reveal that *I Was Here* closely mirrors the sequential stages of the HBM, portraying Cody's evolving perceptions of loss, guilt, and personal agency. External interventions function as critical cues to action that initiate her recovery, while internal cognitive realignment enables self-efficacy, positioning belief as both the catalyst for and the mechanism of healing.

Keywords

Health Belief Model; Trauma Recovery; Gayle Forman; *I Was Here*; Trauma Theory; Psychological Healing; Self-Efficacy; Literary Trauma Studies

Embodied Margins: Intersectional Queerness, Religion, and Caste in Arundhati Roy's *The Ministry of Utmost Happiness*

Author: Muhammad Bilal
Email: bilalkhan507507@gmail.com

Abstract

This study examines the representation of queer identity in Arundhati Roy's novel *The Ministry of Utmost Happiness* (2017), with particular focus on the character of Anjum, a third-gender hijra. The research analyzes how violence is inscribed upon Anjum's body through the intersecting axes of marginalization—gender nonconformity, religious identity, and caste location. The central objective of the study is to foreground the ways in which Anjum's intersectional queerness functions not merely as a site of vulnerability, but also as a form of resistance against systemic oppression. Drawing on Kimberlé Crenshaw's theory of Intersectionality (1989), the study investigates the performance of Anjum's identity and examines how structures of systemic domination and processes of intersectional erasure are embedded within the narrative. Through a close textual and theoretical analysis, the research demonstrates how Anjum's identity as a socially marginalized hijra actively challenges entrenched power structures, thereby creating a radical space in which the rigid boundaries of faith, caste, and gender are destabilized and reconfigured. By interpreting Anjum's embodied location as an act of survival and political resistance, the study intervenes in South Asian queer theoretical discourse, emphasizing the critical importance of intersectional methodologies within postcolonial literary critique, particularly in relation to gendered and queer forms of labor and existence.

Keywords

Intersectionality; Queer Identity; Hijra; Arundhati Roy; *The Ministry of Utmost Happiness*; Religion; Caste; Postcolonial Queer Theory; Gender Marginality

Depiction of Identity in H. M. Naqvi's *Home Boy*: A Self-Orientalist Approach

Author: Sara
Email: saranawabchd@gmail.com

Abstract

This study examines the construction of Pakistani-American identity in H. M. Naqvi's debut novel *Home Boy* (2009) through the critical lens of Self-Orientalism, situating the text within postcolonial and diasporic literary discourse. Set in post-9/11 New

York, the novel traces the experiences of three young Pakistani men—Chuck, AC, and Jimbo—who navigate an atmosphere of heightened Islamophobia, surveillance, and social mistrust that threatens their sense of belonging. The central argument of this paper is that while *Home Boy* attempts to challenge dominant Western stereotypes about Muslims and South Asians, it simultaneously reveals how marginalized subjects internalize and reproduce the hegemonic gaze, resulting in a complex process of Self-Orientalism. Drawing on Edward Said's theory of Orientalism, Hamid Dabashi's concept of the "native informer," and Rey Chow's work on self-representation, the study analyzes the tension between resistance and conformity in the characters' negotiation of identity. The research addresses a critical gap in existing scholarship, which has largely focused on hybridity, trauma, and displacement, by foregrounding the ethical contradictions inherent in postcolonial self-representation. The analysis demonstrates that *Home Boy* operates as a multifaceted discourse that dramatizes the politics of identity formation within a hostile host society, revealing how cultural hierarchies compel diasporic subjects to both contest and reinforce Western perceptions. Ultimately, the study establishes Self-Orientalism as an essential analytical category for understanding the intersections of power, culture, and belonging in South Asian diasporic literature in the post-9/11 context.

Keywords

Self-Orientalism; Pakistani-American Identity; H. M. Naqvi; *Home Boy*; Postcolonial Theory; Diaspora Studies; Orientalism; Native Informer; Post-9/11 Literature

EXPLORING SOCIOLINGUISTIC COMPETENCE TRAINING IN A COMMUNICATIVE APPROACH: IMPACT ON PRIMARY SCHOOL TEACHERS IN CHARSADDA, KHYBER PAKHTUNKHWA

IRAM KANWAL

ABSTRACT

This study examines the impact of Sociolinguistic Competence training on primary school teachers in Charsadda, Khyber Pakhtunkhwa, a multilingual area where Pashto, Urdu, and English overlap raises difficult pedagogical questions. The aim of the study is to determine whether the inclusion of Sociolinguistic competence training can improve communicative practices. The study has a mixed-methods experiment design based on Dell Hymes Communicative Competence Framework. A total of 100 teachers took part, and this was evenly split into Experimental and Control groups. An independent-samples t-test of the quantitative analysis shows that the Experimental Group showed a statistically significant improvement, with a mean difference of 69.28 points as compared to the Control Group. As the results show, the teachers in the Control Group still tended to use inflexible, grammar-oriented methods, while the trained teachers were more flexible and tried different strategies, such as code-switching and register variation, to improve classroom

communication. Further qualitative data also supported these outcomes, demonstrating a change in teachers' attitudes towards linguistic diversity, leading them to see it not as a setback but as a helpful pedagogical tool. Overall, the study illuminates that the inclusion of sociolinguistic concepts in professional development courses can enhance inclusive pedagogy and instructional approaches, create a learning environment and effectiveness, and minimize the marginalization of learners in multilingual classes.

Keywords: Sociolinguistic Competence, Multilingual Education, Teacher Training, Communicative Competence, Code-switching,