शिक्षा महाकुंभ 2.0

INTERNATIONAL CONFERENCE

ON

INDIAN EDUCATION SYSTEM FOR GLOBAL DEVELOPMENT

at

Kurukshetra University, Kurukshetra, Haryana

December 16-17, 2024

SOUVENIR: BOOK OF ABSTRACTS

Editors:

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शिक्षा महाकुंभ –2024

INTERNATIONAL CONFERENCE ON INDIAN EDUCATION SYSTEM FOR GLOBAL DEVELOPMENT

(Organised by DHE & Kurukshetra University)

Date : 16 - 17 December 2024 | Venue-Kurushetra University, Kurushetra,Haryana

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MESSAGE FROM

THE HONORABLE PRESIDENT OF INDIA

सत्यमेव जयते

PRESIDENT

REPUBLIC OF INDIA

MESSAGE

With great pleasure, I extend my heartfelt greetings and best wishes to all the participants, organizers, and distinguished guests of the "Shiksha Mahakhubh International Conference on Indian Education System for Global Development" being held at Kurukshetra University, Kurukshetra. Education is the foundation of a prosperous and enlightened society. It is the key to unlocking human potential and fostering innovation, progress, and understanding. The theme of this conference is a timely and significant reminder of the transformative power of education in shaping the future. It is through knowledge, research, and collaboration that we can address the challenges of our times and create pathways for sustainable growth and development. Kurukshetra, known for its rich historical and cultural heritage, serves as the ideal setting for this prestigious event. It is my hope that the deliberations and exchanges during this conference will inspire new ideas, forge lasting connections, and lead to meaningful outcomes that contribute to the advancement of education globally.

I commend Kurukshetra University for organizing this important conference, and I am confident that the collective wisdom and expertise of all involved will lead to new insights that will benefit not only India but the world.
I wish the conference great success and look forward to the valuable contributions it will make towards the advancement of education in the years to come.

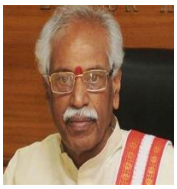
Jai Hind!

Droupadi Murmu
President of India

MESSAGE FROM

THE HONORABLE GOVERNER OF HARYANA

सत्यमेव जयते



GOVERNOR OF HARYANA
MESSAGE

I am delighted to extend my warm greetings and best wishes to all the participants, scholars, and esteemed guests at the "Shiksha Mahakhubh International Conference on Indian Education System for Global Development" being held at Kurukshetra University, Kurukshetra. Education plays a pivotal role in shaping the future of individuals, communities, and nations. It is through education that we equip our youth with the knowledge and skills necessary to face the challenges of an ever-changing world. This conference provides an exceptional platform for global dialogue, where thought leaders and experts from various fields can come together to share their knowledge, insights, and innovations in the realm of education. Kurukshetra, with its rich cultural and spiritual heritage, is a symbol of wisdom and learning, making it the perfect venue for such a significant event. I am confident that the discussions and deliberations during this conference will inspire new perspectives and ideas that will further strengthen the educational landscape in Haryana, India, and beyond. I congratulate Kurukshetra University for organizing this esteemed conference, and I express my gratitude to all those involved in making this event a reality. May this conference foster collaboration, innovation, and progress in the field of education for the betterment of society.

I wish the conference all success, and I look forward to the impactful outcomes that will emerge from this distinguished gathering.

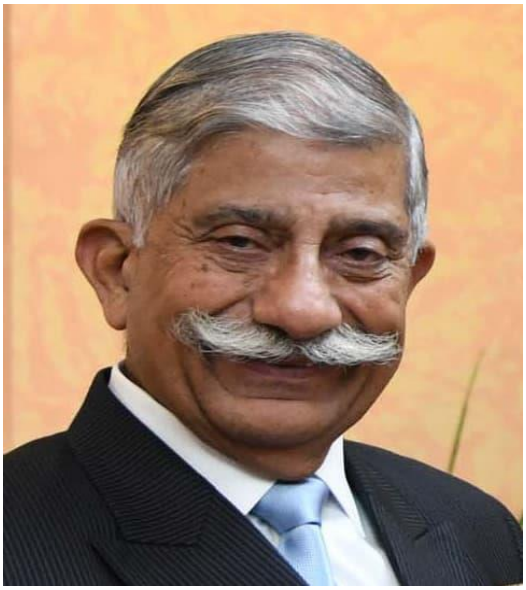
Jai Hind!

Bandaru Dattatreya
Governor of Haryana

Admiral D. K. Joshi, PVSM, AVSM, YSM, NM, VSM (Retd.)

Hon'ble Governor of Andaman & Nicobar Islands

The Hon'ble Lt. Governor conveyed his best wishes for success of the event.



Lt. Gen. Kaiwalya Trivikram Parnaik, PVSM, UYSM, YSM (Retd.)

Hon'ble Governor of Arunachal Pradesh

The Hon'ble Governor extends his best wishes for success of the event.

Shri Rajendra Arlekar

Hon'ble Governor of Bihar

माननीय राज्यपाल, बिहार के द्वारा शिक्षा महाकुंभ के द्वितीय संस्करण की कामयाबी के लिए शुभकामनाएँ व्यक्त की है।

Shri L. A. Ganesan

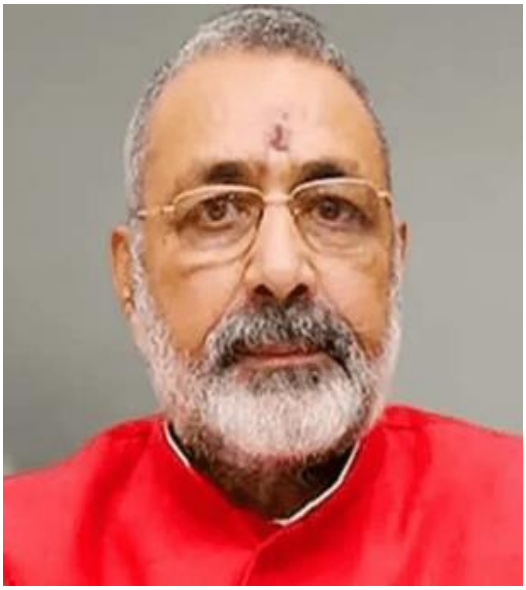
Hon'ble Governor of Nagaland

Hon'ble Governor sends his best wishes for the success of the programme.

Shri Dharmendra Pradhan

Hon'ble Education Minister, Bharat

The Hon'ble minister conveys best wishes for the success of the programme.



Shri Giriraj Singh

Hon'ble Minister for Textiles

Hon'ble Minister sends his best wishes for the success of the programme.

Dr. Brajesh Singh

Hon'ble Director, ICAR-CPRI

Hon'ble Director sends his best wishes for the success of the programme.

Dr. Anup Das

Hon'ble Director, ICAR Research Complex for Eastern Region

Hon'ble Director sends his best wishes for the success of the programme.

Shri Vivek Bhasin

Hon'ble Director, BARC

Hon'ble Director sends his best wishes for the success of the programme.

Dr. (Mrs.) N. Kalaiselvi

Hon'ble Director General, CSIR & Secretary DSIR

Hon'ble Director General sends her best wishes for the success of the programme.

Dr. Gilliam

Hon'ble President, Boston University

Hon'ble President sends her best wishes for the success of the programme.

Major General BK Sharma, AVSM, SM (Retd.)**

Hon'ble Director General, USI

Hon'ble Director General sends his best wishes for the success of the programme.

Dr. S. Periyasamy

Hon'ble Director, CSTRI

Hon'ble Director sends his best wishes for the success of the programme.

Maj. Gen. (Dr.) G. K. Thapliyal, SM (Retd.)

Hon'ble Vice-Chancellor, Swami Vivekanand Subharti University

I wish all the best and good luck for the conference.

Dr. Anand Mahalwar

Hon'ble Vice Chancellor, ISBM University, Chhattisgarh

Congratulations and my best wishes for the success of the conference.

Swami Prakarshananda

Sidhabari Tapovan Ashram Chinmaya Mission

My best wishes for the successful completion of this excellent program.

Prof. Vibha Tandon

Hon'ble Director, CSIR – IICB, Kolkata

Hon'ble Director sends her best wishes for the success of the programme.

Dr. Abhay A. Pashilkar

Hon'ble Director, CSIR-National Aerospace Laboratories, Bengaluru

All the best for the event.

Prof. P. L. Dharma

Hon'ble Vice Chancellor, Mangalore University Mangalagangothri

I wish the program every success.

Dr. A. S. K. Sinha

Hon'ble Director, Institute of Petroleum Technology (RGIPT)

Sir sends best wishes to the organizing committee for the successful completion of the conference.

Dr. Raman Meenakshi Sundaram

Hon'ble Director, ICAR-IIPR

Hon'ble Director sends his best wishes for the success of the programme.

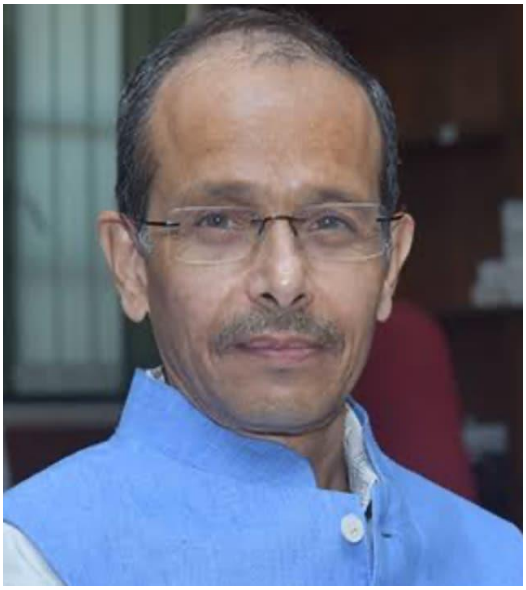
Mr. Pramod Bhasin

Hon'ble Chairman, ICRIER

Hon'ble chairman sends his best wishes for the success of the programme.

Prof. C.G. Karhadkar
Hon'ble Director, IGCAR & GSO
I wish the event a grand success.

Prof (Dr.) Sudhir Krishnaswamy
Hon'ble Vice Chancellor, National Law School of India University, Karnataka
Wish you the best.



Dr. Ashish Lele

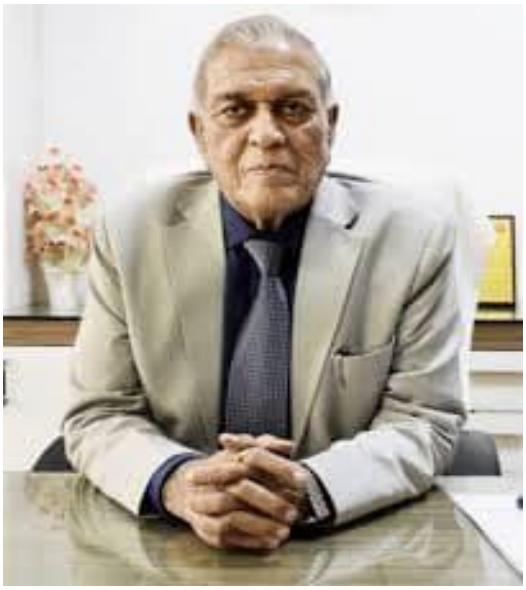
Hon'ble Director, CSIR-National Chemical Laboratory

Hon'ble Director sends his best wishes for the success of the programme.

Dr. C. Anandharamakrishnan

Hon'ble Director, CSIR-National Institute for Interdisciplinary Science & Technology

Sends his best regards.



Dr. K. K. Aggarwal

Hon'ble Vice Chancellor, South Asian University, Delhi

I wish all the best for the programme.

Dr. Ajay Kumar, Sc 'G'

Hon'ble Director, Instruments Research & Development Establishment (IRDE)

Hon'ble Director sends his best wishes for the success of the programme.

Dr. Manindra Agrawal

Hon'ble Director, Indian Institute of Technology Kanpur

With best wishes.

Prof. Mamidala Jagadesh Kumar

Hon'ble Chairman, University Grants Commission, Ministry of Education

He conveys his best wishes for the International Conference.

Dr. K J Sreeram

Hon'ble Director, CSIR-CLRI

My best wishes for the successful completion of this excellent program.

Prof. (Dr.) Ashutosh Biswas

Hon'ble Executive Director, AIIMS Bhubaneswar

I wish you a grand success of your Shiksha Mahakumbh 2.0.

Sojan George

Hon'ble Senior Executive Secretary, Indian Institute of Management Kozhikode

He sends his best wishes for the success of the event.

Mr. Praveen Nahar

Hon'ble Director, NID

Sends best wishes for the event.

Prof. Bharat Bhasker

Hon'ble Director, Indian Institute of Management Ahmedabad

He conveys his best wishes for the International Conference.

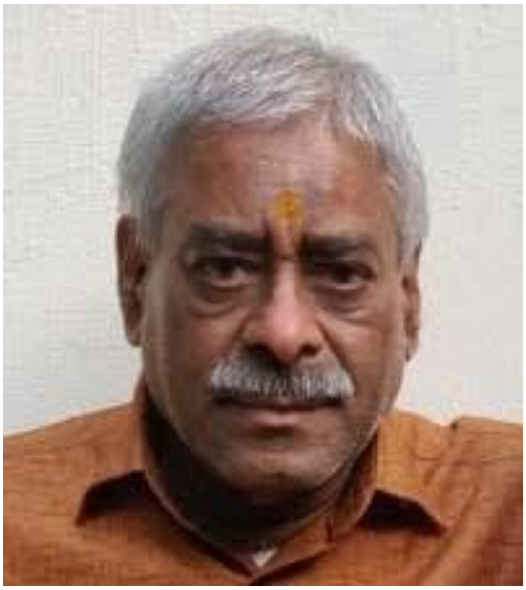
Shobhit Mathur

Hon'ble Vice-Chancellor

I wish 'Shiksha Mahakumbh 2.0' immense success in its mission to inspire and innovate in the education sector.

Dr. Atul Narayan Vaidya
Hon'ble Director, CSIR-NEERI
Hon'ble Director sends his best wishes for the success of the programme.

Dr. V. P. Chovatia
Hon'ble Vice Chancellor, Junagadh Agricultural University
I wish for the success of the event.



Mr. L. S. Ganesh
Hon'ble Vice Chancellor, ICFAI Foundation for Higher Education
Best wishes.

Prof. Irene Tracey
Hon'ble Vice-Chancellor, University of Oxford
Hon'ble VC sends her best wishes for the success of the programme.

Prof. Suhas S. Joshi
Hon'ble Director, Indian Institute of Technology, Indore

नमस्कार, जय भारत , जय भारती

सबसे पहले शिक्षा महाकुंभ अभियान का धन्यवाद जिन्होंने ऐसे नूतन प्रयोग की न केवल कल्पना की बल्कि उसे क्रियान्वित भी किया। मैं किसी अन्य व्यस्तता के कारण इसमें शामिल नहीं हो सका इसके मुझे अफ़सोस है एवं इसके लिए मैं क्षमा-प्रार्थी भी हूँ।

मैं इस शिक्षा महाकुम्भ में सम्मिलित हुए सभी प्रतिभागियों को शुभकामना देता हूँ जिन्होंने इसमें बढ़-चढ़ कर हिस्सा लिया। मुझे पूर्ण विश्वास है कि उन्हें एक अलग अनुभव हुआ होगा। इस कार्यक्रम की रूप रेखा देख कर मुझे सुखद आश्चर्य हो रहा है कि कैसे इतने प्रकार की गतिविधि हो रही है जिससे भारतीय संस्कृति, भारतीय भाषा व् भारतीय विज्ञान का संवर्धन हो सके।

मैं उम्मीद करता हूँ कि इस प्रकार के आयोजन होते रहें और माँ भारती इस कार्यक्रम को सफल बनाये। मैं पूरे विश्वास के साथ कह सकता हूँ कि ऐसे आयोजन आगे भी होते रहेंगे और जहाँ भी, जिस रूप में भी हो, हम इसमें अपना योगदान देते रहेंगे।

एक बार पुनः मैं सभी को बधाई देता हूँ।

जय हिन्द !

सुहास एस जोशी
निदेशक
आईआईटी इंदौर

Day 1

Technical Session-I

Venue-UIET, KUK, Room No-100

Date- December 16, 2024 **Time: 03:00 PM to 05:00 PM**

Session Chair: Prof. Brahmjit Singh, Kurukshetra University, Kurukshetra

Co-Chair: Dr. Rajeev Arya, National Institute of Technology, Patna

S. No.	Paper Code	Title of the paper	Authors Name
1.	ENG-001	Leveraging Industry 4.0 for Innovative Product Design: Challenges and Opportunities	Akhil Sharma Sandeep Kumar
2.	ENG-002	Optimization of Complete Awaiting Duration of Tasks with Concept of Task Block on Multi-Stage Flow Shop Scheduling	Malvika Sharma Deepak Gupta
3.	ENG-003	Decentralized Authentication for Virtual Tourism: Enhancing Education in the Metaverse Era	Pankaj Kumar Garima Thakur, Deepika gautam
4.	ENG-004	Ensuring Data Integrity in Cloud-Based Digital Twin Healthcare Systems Using Blockchain	Pankaj Kumar Garima Thakur, Deepika gautam
5.	ENG-005	Energy Consumption Forecasting in Smart Cities Using Machine Learning Techniques	Gourav Gupta Parveen Sadotra, Pradeep Chouksey, Mayank Chopra
6.	ENG-006	Early Detection of Brain Tumor Using MRI Scan	Sarthak Singh
7.	FS-001	Mathematics Education: A Catalyst for Global Progress and Development	Sarita Pippal
8.	FS-002	Study on the Impact of CCS on the Structural and Optical Properties of ZnO	Kapil Sood Shivani Dhall, Shamsher Singh
9.	FS-003	Review on Enhancing the Performance of SnO_2-based Gas sensors for low temperature operations: Materials, Doping and Mechanism	Ashwani, Vipin Kumar Jain

Technical Session-II

Venue-UIET, KUK, Room No-101

Date: 16 December 2024 **Time: 3:00 PM to 5:00 PM**

Session Chair: Dr Vipin Kumar Jain, Chaudhary Bansi Lal University, Bhiwani

Co-Chair: Dr Mukesh Kumar, Delhi University, Delhi

S. No.	Paper Code	Title of the paper	Authors Name
1	ET-001	Artificial Intelligence in Education	Amrita Rathi
2	ET-002	Evaluating the Effectiveness of AR, VR, and MR Technologies in Indian Classrooms: A Global Perspective	Rahul Kumar Rai Reshu Bansal
3	ET-003	AI in Indian Education: Opportunities and Challenges	Gyanendra Kumar Upadhyay
4	ET-004	Machine Translation of English News to Indian Sign Language (ISL) for Indian Deaf Community	Annu Rani Vishal Goyal
5	ET-005	A Blockchain Framework for Transforming Teachers' Evaluation and Certification	Komal Rani Tehlan Yogesh Kumar, Rushali Gupta, Rajiv Ratn Shah
6	ET-006	The Dual Edge of AI in Education: Opportunities for Innovation and Challenges for Equity	Nishith Arora
7	ET-007	Innovative Virtual Library Tours Leveraging IoT Technology: A Framework for Enhanced User Experience	Priyanka Sinha Abhishek Sinha Khushpreet Singh Brar

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Technical Session-III

Venue-UIET, KUK, Room No-200

Date: 16 December 2024 **Time: 3:00 PM to 5:00 PM**

Session Chair: Prof. Ravi Prakash, Chaudhary Bansi Lal University, Bhiwani

Co-Chair: Dr Madhav Saraswat, Chaudhary Charan Singh University, Meerut

S. No.	Paper Code	Title of the paper	Authors Name
1	SS-001	Importance of Cultural Exchange in Education and Empowering the Youth of India	Bala Lakhendra Satyam Kumar
2	SS-002	The Importance of Community Engagement in Empowering Local Voices in Indian Education System	Bala Lakhendra Shubham Kumar
3	SS-003	Cross-Cultural Factors in Educational Contexts: Understanding Diversity, Promoting Inclusion, and Enhancing Learning Outcomes	Sukhmani Singh, Ravi Rathee, Riya, Sargun Bedi Kalra
4	SS-004	Assessing Emotional Intelligence Among Law Students in Jabalpur: A Comprehensive Analysis	Deeplaxmi Chile
5	SS-005	Flexible Learning Pathways Adapting to Changing Educational Needs	Arun Kumar Arashdeep Singh
6	SS-006	Globalizing Bhartiya Education: Strategies for Internationalization and Inclusive STEM Education	Pradeep Ramesh Sonar, Sachin Trambak Mahale, Neha Saini
7	SS-007	The Importance of Crime Scene Management	Gurvinder S. Sodhi
8	SS-008	Empowering Indian HEIs with SDG-Driven Curriculum Integration	Chhavi Kiran Girdhar Gopal
9.	SS-009	The Theory of Peace Propounded by Shri Krishna in Bhagavad Gita	Deepak Hathwala
10.	SS-010	Empowering Students as Leaders: A Global Perspective	Sumant Kumar Goel
11	SS-011	भारतीय ज्ञान परम्परा में लोक कल्याण	Shailender singh
12	SS-012	Rethinking curriculum: aligning Indian Education with global standards	Balbir Kaur

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Technical Session-IV

Venue-UIET, KUK, Room No-201

Date: 16 December 2024 **Time: 3:00 PM to 5:00 PM**

Session Chair: Dr Samriti Mahajan, Lingaya's Vidyapeeth, Faridabad, Haryana

Co-Chair: Dr. Vipin Sharma, SCL Technologies, Noida

S. No.	Paper Code	Title of the paper	Authors Name
1	HUM-001	Translation and Meaning: A Cultural and Semiotic Exploration	Vimal Kumar Vishwakarma
2	HUM-002	Factors Restricting Consumers from Buying Green Skincare Products	Neha Rani, Sunita Bharatwal , Seema
3	BSE-001	Entrepreneurial Education for Global Career Readiness	Heena
4	BSE-002	Sustainability Through Green Education: Perspective of Higher Education Institutions in India	Meenal Rawat Bhumika Sehra, Shweta Bhati
5	BSE-003	Scope of Artificial Intelligence Tools in Ushering Entrepreneurship Through Common Service Centres in Assam and Punjab	S B Seshadri Biju Mani Das, Moirangthem Ibungomacha Singh
6	BSE-004	Role of Biotechnology in Circular Economy: Educational Strategies for Indian Colleges	Diksha
7	AV-001	Sustainable Crop Management: A Support System Tailored to India's Climatic Challenges	Sandeep Kumar Prabir Sarkar, Akhil Sharma, Mandeep Singh
8	ED-001	Universal Design for Learning (UDL) as Practice for Inclusive Classrooms for Students with Intellectual Disabilities	Yashvinder Kapil J Sujathamalini, Sunita Seshadri, Bibhakar Vishwakarma
9	ED-002	Attitude of Middle-Stage Children Towards Children with Special Needs in Inclusive Schools.	K. Sunita Seshadri Simplejit Kaur Dhanoa, Kanika Gandhi
10	ED-003	Advancing Indian Sign Language Translation: A Comprehensive System for Punjabi Text Using Synthetic Animations.	Gurdeep Singh Vishal Goyal

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Technical Session-V

Venue-UIET, KUK, Room No-300

Date: 16 December 2024 **Time: 3:00 PM to 5:00 PM**

Session Chair: Prof. Mayank Kinger, Chaudhary Bansi Lal University, Bhiwani

Co-Chair: Dr. Sachin Sharma, Principal, Vidhya Bharti College

S. No.	Paper Code	Title of the paper	Authors Name
1	SE-001	Professional Commitment of School Teachers in Relation to Their Emotional Intelligence: A Study on the Teachers of Himachal Pradesh	Jyotika Guleria
2	SE-002	Role of School-Based Nutrition Education in Empowering Healthier Communities.	Surbhi Vashisht
3	SE-003	Let's Water the Roots: Engaging Mothers in Early Childhood Education.	Varinder Kumar Radhika Sharma
4	SE-004	Language of New-Gen Toddlers: With Loud Voice and Silent Conversations/Early Screen-Induced Selective Language and Communication Delay.	Ruchi Jain Deepika Jain
5	SE-005	Effective Classroom Management Practices under Inclusive Education.	Bibhakar Vishwakarma Dazy Zarabi
6	SE-006	Globalizing Bhartiya Education: Strategies for Internationalization through Vedic Insights.	Nitin Kulshrestha Anushka Kulshrestha
7	SE-007	Best practices of Shiksha Bharti Vidyalaya Ram Nagar Rohta	Mamta Bhola, Bhumika Juneja

Day 2

Technical Session-VI

Venue-UIET, KUK, Room No-100

Date: 17 December 2024 **Time: 10:00 AM to 1:00 PM**

Session Chair: Dr Sunita Bharatwal, Chaudhary Bansi Lal University, Bhiwani

Co-Chair: Prof. Bala Lakhendra, Banaras Hindu University. Varanasi

S. No.	Paper Code	Title of the paper	Authors Name
1	MH-001	Biotechnology in Preventing Lifestyle Diseases in Youth: A Focus on Diabetes and Obesity	Kamakshi Ghai
2	MH-002	Effectiveness of Insect Muscat Model to Increase Acceptance of Albendazole in School Students: A Case Study of Sri Muktsar Sahib District of Punjab.	Deepinder Singh Seema Goyal
3	MH-003	Reporting the Anti-Inflammatory Activity of Selected Components Extracted from Himalayan Moss through Network Pharmacology and Docking-Based Prediction.	Shiwani Latwal Anju Rao
4	MH-004	The Impact of Micronutrient Deficiency on Cognitive Development and Scholastic Performance	Ritu Pradhan Anupreet Kaur Sobti
5	MIR-001	Bridging the Gaps in Corporate Social Responsibility to Education in India	Savarni Pant
6	MIR-002	A Systematic Review of Green Marketing Communication and its Effect on Brand Loyalty in the FMCG Sector	Akshita Samriti Mahajan Priyanka Jarolia
7	MIR-003	Study of Factors Affecting Customers' Investment Decision in Term Insurance Plans	Priti Rai Deepa Gupta Mukul Gupta Sarvendu Tiwari
8	MIR-004	Empowering India's Economy: The Pharmacy Sector's Remarkable Growth Story Post-Pandemic	Priti Rai Deepa Gupta

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Technical Session-VII

Venue-UIET, KUK, Room No-101

Date: 17 December 2024 **Time: 10:00 AM to 1:00 PM**

Session Chair: Dr S Kaushik, Kurukshetra University, Kurukshetra

Co-Chair: Dr. Atryee Saha, Jawaharlal Nehru University, New Delhi

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S. No.	Paper Code	Title of the paper	Authors Name
1	SS-013	The Bhagwad Gita's Psychological Insights on Mind, Body and Spirit: A Holistic Approach	Sonal Shekhawat, Sunita Bharatwal
2	SS-014	Timeless Wisdom, Modern Minds: Uncovering Student's Motivation for enrolling in Gurukul in the Present era	Abhishek Srivastava, Ankush Kumar, Sonal Atreya
3	SS-015	Bhagavad Gita Teachings on Contemporary Education System: Adapting to Changing Educational Needs	Kritika, Amrita, Sweety Deswal
4	SS-16	Optimizing Public Healthcare: A Productivity Measurement and Monitoring Framework for Hospitals	Sonu Bala Garg, Jatinder Garg, Vikash Kumar Garg, Jitesh Panday, Ramendra Singh
5	SS-017	Education of Tribal Women of India: Issues, Current Stats and Challenges Faced	Hargovind Soni, Vidhi
6	SS-018	Empowering Teenagers through Connection, Empathy, and Holistic Support	Nazir Ahmad Lone
7	SS-019	Restructuring and Reskilling the Educational Curriculum Adapting Pedagogical Approaches Promoting Lifelong Learning	Anu Verma Puri Jyotika Guleria
8	SS-020	Cultivating Emotional Intelligence in Higher Education: A Systematic Review on Global Perspective	Simplejit Kaur Dhanoa Manmohan Singh
9	SS-021	Enhancing Research and Development in Indian Biotechnology Education: A Global Perspective on Practices and Collaborations	Mamta Arora
10	SS-022	Mahatma Gandhi Ke Darshan Ki Bhartiya Avm Vaishvik Shiksha Paddhati Mein Upadeyata: Ek Vishleshan	Komal Garg
11	SS-023	Rural Women Empowerment of Ambala Cantt Through KVK Trainings of Cow Milk & Milk Products	Kajal Rajan Mishra

12	SS-024	A Study to Explore the Perception of Teachers and Learners Towards Entrepreneurship Mindset Curriculum and its Practices in Delhi	Suman
13	SS-025	Empowering Students as Leaders: A Global Perspective	Sandeep Kumar

Technical Session-VIII

Venue-UIET, KUK, Room No-200

Date: 17 December 2024 **Time: 10:00 AM to 1:00 PM**

Session Chair: Dr Pankaj Kumar, Central University Himachal Pradesh, Dharmshala

Co-Chair: Dr Krishna Pandey, Kurukshetra University, Kurukshetra

S. No.	Paper Code	Title of the paper	Authors Name
1	ET-008	Balancing Challenges and Opportunities in Online Learning: A Research Perspectives Challenges and Strategies for Sustainable Impact	Mohit Mehta Meera
2	ET-009	Digital Literacy: Navigating the Digital World in Education	Renu
3	ET-010	Enhancing Pedagogical Training through ICT: Insights from India's National Education Policy 2020	Sneha Archana Preeti Devi
4	ET-011	Analysing Teacher Intentions to Adopt MOOCs in Haryana: Extended TAM model	Monika Devi Preeti Devi, Reetu
5	ET-012	Enhanced Dispersion of Exfoliated Carbon Fibers in Aluminum Matrix for Al/C Nanocomposites	Thakur Sudesh Kumar Raunija, Jatinder Garg, Praveen Kumar Sharma, Sonu Bala Garg
6	ET-014	Holistic Digital Inclusion for Multiple SDGs in India: A Review	Savarni Pant
7	ET-015	Digital Overload and Adolescent Cognition: A Psychodynamic Approach to Learning Difficulties	Harnoor Singh
8	ET-016	Development of Durable Coatings for Corrosion Protection in High-Speed, Oxygen-Rich Atmospheres	Thakur Sudesh Kumar Raunija, Nivedita Grewal, Jatinder Garg, V. Sekkar
9	ET-017	Integrating Artificial Intelligence in Materials Research: Opportunities and Challenges	Jatinder Garg, Thakur Sudesh Kumar Raunija, Sonu Bala Garg

Technical Session-IX

Venue-UIET, KUK, Room No-201

Date: 17 December 2024 **Time: 10:00 AM to 1:00 PM**

Session Chair: Dr Rajesh Agnihotri, UIET, Kurukshetra University, Kurukshetra

Co-Chair: Ms. Mamta Bhola, Vidhya Bharti School, Rohtak

S. No.	Paper Code	Title of the paper	Authors Name
1	EWC-001	A Recent and Future Perspective on Clean Energy in the Indian and Global Context Towards Achieving SDG 7	Pratibha Sonam Sandhu, Sathans
2	EWC-002	Analyzing Bibliometrics and Themes in the Progression of Climate Change Mitigation Research	Vishal Jagota Jyoti Bhola, Satyajit Anand, Rajneesh Talwar, Manvinder Sharma, Trishna Grewal
3	EWC-003	Spatial Distribution and Health Risk Assessment of Uranium in Groundwater and Surface Water of Fatehgarh District, Punjab	Chandan Vimal Mehta
4	EWC-004	Water Purification Using Carbon-Based Materials for Environmental Sustainability and Water Conservation: A Review.	Sushil Kumar Jain Karishma Jain, Deepika Maan, Ashish Kumar, Balram Tripathi
5	EWC-005	Measurement of Radon and Thoron Exhalation and Radionuclide Levels in Soil Samples	Jaswinder Kaur Chandan, Vimal Mehta
6	EWC-006	Study the role of carbon credit trading in achieving global emission reduction targets	Funnisha Garg Laxmi
7	EWC-007	Sustainable Crop Management: A Support System Tailored to India's Climatic Challenges	Sandeep Kumar, Prabir Sarkar, Akhil Sharma, Mandeep Singh

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Technical Session-X

Venue-UIET, KUK, Room No-300

Date: 17 December 2024 **Time: 10:00 AM to 1:00 PM**

Session Chair: Dr. Sonu Bala Garg, IK Gujaral Panjab Technical University, Jalandhar

Co-Chair: Dr. Sandeep Kumar, Jawaharlal Nehru University, Delhi

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S. No.	Paper Code	Title of the paper	Authors Name
1	SE-008	Emotional Quotient in Students: A need of the Hour or Not	Upagya Sharma
2	SE-009	Dictogloss: A Cooperative Approach to Enhance Listening, Speaking, Reading and Writing.	Sangeeta Pant Vani Parwez
3	SE-011	Post middle-class internship board.	Seema Goyal
4	SE-012	Recent Challenges and Research in Quality Education	Upma
5	SE-013	Research and development in Indian education: A global outlook	Jitender Kumar
6	SE-014	Innovation and Indian Education System: Role in Global Development	Nilisha Singh
7	SE-015	Teachers' perception towards nature and extent of bullying in schools	Varsha Saini Shanti Balda
8.	SE-016	A Study to Explore the Perception Of Teachers And Learners Towards Entrepreneurship Mindset Curriculum And Its Practices In Delhi	Suman, Sonali Verma
9	SE-017	Innovative Pedagogy for the 21st century: A framework for transformative teacher training	Shweta Agrawal, Vipin Kumar Jain, Y.K Vijay

A Blockchain-Based Framework for TransformingTeachers Evaluation and Certification

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Abstract

Teachers play a pivotal role in shaping both individual growth and societal progress by fostering students' academic, social, and emotional development. They impart knowledge, encourage critical thinking, and equip students with essential life skills. Given the importance of teachers, regular and effective assessment is crucial. However, evaluating educators presents challenges due to their diverse responsibilities, subjective evaluation methods, and limited feedback mechanisms. To address these challenges, we have developed a comprehensive framework that enables students to assess teachers on a 1 to 5 scale using customized evaluation questions. This framework gathers detailed feedback, computes average ratings, and visualizes both individual and overall teacher performance. Additionally, a Generative Pre-trained Transformer (GPT) API is utilized to generate summarized feedback for each teacher, offering insightful reflections on their performance. Upon course completion, teachers are awarded digital certificates embedded with QR-codes for easy validation, with blockchain technology employed to ensure the security and authenticity of these credentials. This approach streamlines the teacher evaluation process, enhances teaching quality, promotes student success, and supports professional development, all while ensuring institutional accountability.

Keywords: Blockchain, Feedback, Teachers Evaluation, Performance Visualization

Factors Restricting Consumers from Buying Green Skincare Products

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Abstract

The 21st century has given rise to the green products market. Everyone is keen to buy products that are safe and healthy for their lives. People know the benefits of using green products but still some factors are hindering them from buying these products. So the present study mainly focuses on the factors that are restricting the people of Bhiwani from buying green skincare products. The convenience sampling method was used to collect the data from the respondents and the sample size that was taken for this study was 414. By using descriptive statistics and Exploratory Factor Analysis the study found various factors that are restricting consumers from buying green skincare products and this study can help the companies to minimize them and motivate the consumers to buy the products.

Keywords: Green Skincare Products, Beauty and Wellness, Environment Protection, Natural Ingredients, Restricting Factors.

Innovative Pedagogy for the 21st century: A framework for transformative teacher training

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Abstract

In a rapidly evolving world, transformative teacher training is vital for preparing educators to address the pressing global challenges of 21st century. Transformative teacher training is a critical approach to equipping educators with the skills, knowledge, and mind set required to address the complexities of modern global challenges. In an increasingly interconnected and diverse world, educators must go beyond traditional teaching methods to foster critical thinking, cultural competence and global awareness in their students. This paper explores the core principles of transformative teacher training, emphasizing reflective practice, interdisciplinary teaching strategies, and the integration of technology to support innovative and inclusive pedagogy. Key components of transformative training include mastering hybrid teaching methodologies, promoting social- emotional learning, and incorporating sustainability and digital literacy into education, by preparing educators to embrace lifelong learning, cultural competence and ethical leadership, this framework empowers them to create inclusive, action oriented classrooms. Such training ensures teachers not only adapt to the dynamic educational landscape but also inspire students to become empathetic, solution driven global citizens.

Keywords: Emphasizing reflective practices, Hybrid teaching methodologies

Study the role of carbon credit trading in achieving global emission reduction targets

Funnisha Garg, Laxmi

Abstract

Carbon credit trading has become an essential component of global climate strategies, enabling countries and companies to meet their emission reduction targets while fostering sustainable development. In India, a rapidly growing economy with high energy demands and significant industrial emissions, carbon credit trading offers both opportunities and challenges in achieving the country's climate goals. This study investigates the role of carbon credit trading in India's efforts to meet global emission reduction targets, focusing on its impact on the country's national strategies, regulatory frameworks, and key sectors such as energy, manufacturing, and agriculture.

The research employs a mixed-methods approach, analyzing India's participation in international carbon markets, including the Clean Development Mechanism (CDM) under the Kyoto Protocol and the evolving domestic carbon trading mechanisms. The paper explores how carbon credit trading in India incentivizes emissions reduction projects, promotes renewable energy adoption, and contributes to meeting India's Nationally Determined Contributions (NDCs) under the Paris Agreement. Additionally, the study examines the challenges faced by Indian industries in leveraging carbon credits, such as issues related to the quality and verification of carbon offset projects, market access, and the financial viability of trading.

The findings indicate that while carbon credit trading has the potential to significantly contribute to India's emission reduction goals, its effectiveness is constrained by systemic barriers, including limited market liquidity, regulatory uncertainties, and unequal access to carbon credit revenues among industries. The paper concludes by offering policy recommendations aimed at strengthening the transparency, inclusivity, and effectiveness of India's carbon credit trading mechanisms, thereby ensuring that they contribute meaningfully to global emission reduction efforts and support the country's sustainable development.

Keywords: Carbon Credit Trading, Emission Reduction, Sustainable Development, Renewable Energy, Nationally Determined Contributions (NDCs), Regulatory Frameworks

Biotechnology in Preventing Lifestyle Diseases in Youth: A Focus on Diabetes and Obesity

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Abstract

The rising prevalence of lifestyle diseases such as diabetes and obesity among youth presents a global public health challenge, particularly as these conditions often lead to long-term complications affecting quality of life and academic performance. Biotechnology offers innovative solutions to address this growing concern by providing targeted prevention and management strategies. This paper explores the role of biotechnology in mitigating the onset and progression of diabetes and obesity in young populations, focusing on advanced tools like genetic screening, bioengineered therapeutics, and personalized nutrition. Recent developments in gene-editing technologies, such as CRISPR, enable the identification of genetic predispositions to these diseases, allowing for early intervention and preventive measures tailored to individual risk profiles. Additionally, biotechnological innovations in metabolic engineering and the development of synthetic hormones like insulin analogues have shown promise in managing blood glucose levels more effectively in diabetic patients. The paper also highlights the potential of personalized nutrition, where biotechnological advances in nutrigenomics can offer customized dietary plans based on an individual's genetic makeup to combat obesity. Furthermore, biotechnological research on gut microbiota manipulation holds potential in both preventing and managing metabolic disorders by promoting healthier digestion and nutrient absorption. Ultimately, this paper aims to showcase how biotechnology can play a pivotal role in creating sustainable solutions to prevent lifestyle diseases in youth. By integrating these biotechnological approaches into public health and educational systems, it is possible to promote healthier lifestyles and reduce the burden of diabetes and obesity in future generations.

A Recent and Future Perspective on Clean Energy in The Indian and Global Context Towards Achieving SDG 7

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Abstract

Clean, effective, reliable, and affordable energy resources are expected for a sustainable world. Energy crisis, particularly poor access, and affordability, mismatch between demand and supply, and reliance on conventional sources- are the challenges before achieving SDG 7 i.e. clean energy objective for sustainable development. The global transition to clean energy is accelerating, driven by the vital requirement to address reduce carbon emissions, and climate change, and achieve sustainable development. India has made substantial progress in renewable energy, especially in solar and wind power, and widespread transportation electrification. On a global scale, countries are adopting renewable energy sources like solar, wind, and green hydrogen. However, several challenges hinder renewable energy integration, including grid stability, energy storage, and intermittency of renewables. This review paper thoroughly outlines the growth of renewable energy sources (RES) in present and future perspectives in India and globally, while addressing the challenges of renewable integration and the importance of enhancing educational curricula to support a sustainable energy future.

Cultivating Emotional Intelligence in Higher Education: A Systematic Review on Global Perspective

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Abstract

The concept of Emotional Intelligence was discovered in 1981 by James Dozier, although In Indian value system it was mentioned in holy books of different religions. Emotional Intelligence is an ability to recognize, manage and understand the emotions of self and others. The Emotional Intelligence is based on self-awareness, self-regulation, relationship building abilities, motivation and empathy. In Higher Educational System, Emotional Intelligence plays significant role to achieve success and true potential among students (Halimi, AlShammari & Navarro, 2021; Warrier, John &Warrier, 2021; Valverde et al, 2023). However, ignoring uncontrolled Emotions may affect mental health and making vulnerable to anxiety and depression among young learners (Shafait et al, 2021; Rana, Singh & Chaturvedi, 2023). This study aims to explore the role of Emotional Intelligence in Higher Education through systematic review from 2019 to 2024 at global level and also aims to identify the recent trends and gaps in literature. The major findings reveals that the academic and holistic achievement depend on the emotional regulations and self-awareness among students and it also fosters the empathetic skills for the better understanding of others situations. The systematic analysis of the researches across the world advocates that fostering Emotional Intelligence not only contributed to individual growth however also enhances the ethical values and standards within the higher educational system. So, by incorporating EI in higher education, the institutes or universities can better prepare the students to navigate complex situations for better solution and become responsible citizens.

Keywords: Emotional Intelligence, Higher Education, Mental Health, Self-Awareness, Empathy, Relationship Building.

Leveraging Industry 4.0 for Innovative Product Design: Challenges and Opportunities

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Abstract

Industry 4.0 has transformed old processes into highly efficient, data-driven systems, revolutionizing product design through the integration of cutting-edge digital technologies. Design teams can collaborate easily across borders, streamlining processes and stimulating creativity thanks to the convergence of cyber-physical systems, the Internet of Things, and artificial intelligence (AI). Designers use digital twins and real-time data analytics to simulate and improve prototypes with unprecedented accuracy, thereby reducing time-to-market and minimizing resource waste. To further increase design flexibility, mass customization and complex geometries are made possible by smart materials and additive manufacturing. With increased functionality and a focus on the needs of the user, this change encourages a sustainable and customer-centric approach to product development. Industry 4.0 is changing the face of product creation by enabling fast iteration and streamlining design processes. This is pushing businesses to adopt more competitive and adaptable strategies in a market that is becoming more dynamic. In this paper, the discussion on how industry 4.0 and its technologies impacting the product design in an industry. The paper discusses about the challenges and opportunities for product designers with respect to fourth industrial revolution.

Keyword: Product Design, Industry 4.0, cyber physical-systems, Artificial Intelligence.

Enhancing Pedagogical Training through ICT: Insights from India's National Education Policy 2020

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Abstract

National Education Policy was introduced to change the face of education in India by introducing the integration of ICT with education at all levels. It marks a significant step towards introducing Information & Communication Technology (ICT) in education, with a special emphasis on transforming pedagogical training. This paper explores how ICT can be strategically utilized to enhance the quality of teaching & learning processes as outlined in the National Education Policy 2022 by examining the objectives laid out by the NEP 2020 concerning the adoption of technological tools in teacher education, identifying the potential issues, & discussing about the practical solutions. Through an analysis of current trends & detailed case studies, this study highlights the pivotal role ICT plays in modernizing educational systems& suggests ways to optimize its implementation for better outcomes in pedagogical practices.

Keywords: National Education Policy 2020, ICT in Education, Pedagogical Training, Teacher Professional Development, Educational Technology Integration.

Reporting the anti-inflammatory activity of selected components extracted from Himalayan moss through network pharmacology and docking-based prediction.

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Abstract

Inflammation is an intricate adaptive defense reaction of bodily tissues against noxious factors like infection, tissue injury and pathogen invasion. It provokes the release of a wide range of local inflammatory-related mediators like leukocytes, nitric oxides, cytokines, chemokines and plasma proteins to the affected area. Certain inflammatory proteins like SRC and COX2 act asinflammatory proteins.Many synthetic drugs have been developed to block such inflammation-related proteins. Bryophytes being one of the most abundant plant speciespossessrare therapeutic bioactive compounds but their biological properties and chemical constituents remain relatively unexplored.In our study, we conducted chemical characterization of one of the Himalayan moss Barbulaconstrictausing the GC-MS technique and reported its anti-inflammatory mechanism using in-silicomethodologies. The chemical constituents were isolated using GC-MS analysis and major bioactive compounds having pharmacological properties were screened out using ADME analysis. Network pharmacology and molecular docking studies showed SRC and COX2 being two major anti-inflammatory proteins. These proteins showed efficient binding affinity with screened compounds of Barbulaconstricta.Therefore, by integrating GC-MS along with network pharmacology studies and molecular docking a robust approach to accessing active components of Barbulaconstrictaand their overall effectiveness in suppressing inflammation could be investigated.As many synthetic drugs have been developed to ease the inflammation. However, these drugs are costly and some have negative aftereffects, therefore, a shift towards medicinal plants and their derivative products has opened a new prophylactic management of inflammatory diseases and this study is an effort to explore an unexplored plant species for its pharmacological properties.

Keywords: Inflammation, moss, network pharmacology, anti-inflammatory properties.

Evaluating the Effectiveness of AR, VR, and MR Technologies in Indian Classrooms: A Global Perspective

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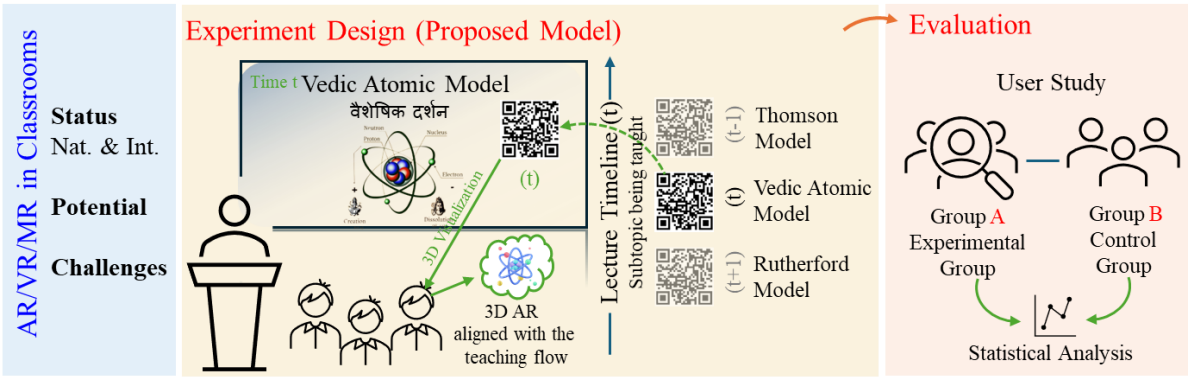
Abstract



The integration of advanced technologies such as Augmented Reality (AR), Virtual Reality (VR), and Mixed Reality (MR) in classrooms has brought about significant changes in the global educational landscape. These technologies offer immersive and interactive learning experiences, leading to improved student engagement and understanding. This paper explores the present status and impact of AR, VR, and MR technologies in education globally, specifically focusing on their potential in Indian classrooms. It explores the unique capabilities of each technology in fostering immersive learning experiences. It highlights the contributions of AR, VR, and MR individually in enhancing different aspects of the learning process.

Despite their transformative potential, the widespread adoption of these technologies in Indian classrooms faces several challenges, such as inadequate technological infrastructure, high costs, and limited digital literacy. To address these issues, this study suggests a teaching

method using QR codes as AR image trackers aligned with the teaching flow. Through a user study, the research evaluates the effectiveness of this method in facilitating a more immersive and accelerated understanding of complex concepts, such as the development of the atomic model. The findings indicate that this approach improves student learning by combining traditional teaching with interactive digital content, offering a practical way to integrate AR technology into Indian classrooms. The study provides insights into the feasibility and acceptance of this method, demonstrating its potential to revolutionize technology-enhanced learning in various educational settings.

Keywords: Augmented Reality, Virtual Reality, Mixed Reality, User Study, Teaching Model.

Balancing Challenges and Opportunities in Online Learning: A Research Perspectives

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Abstract

The swift growth of online education has changed the face of education, bringing with it both enormous possibilities and difficult obstacles. This abstract highlights important elements that affect the efficacy and sustainability of online education while examining the complex balance between these two aspects. From the perspective of opportunity, online learning provides unmatched flexibility, making education accessible to a geographically scattered and diversified population. Adaptive technologies enable customized learning experiences, and by supporting different schedules and learning speeds, it promotes lifelong learning. Online platforms' scalability also enables educational institutions to save operating expenses while reaching a wider audience. The best use of online learning, on the other hand, is hindered by a number of obstacles. The digital gap is made worse by technological obstacles including unequal access to dependable internet and digital gadgets. Concerns about student motivation and engagement are especially important since a lack of in person interaction can result in feelings of loneliness and a reduction in accountability. Furthermore, instructors continue to face challenges in maintaining the integrity and quality of online examinations. The balance between opportunities and challenges in online learning is examined in this study using a secondary data analysis approach. As part of the technique, data from reliable sources, including government publications, industry white papers, academic journals, and institutional studies, is gathered and analyzed. An interdisciplinary approach is necessary to balance these potential and challenges. The obstacles to successful online learning can be reduced by employing tactics including improving digital infrastructure, integrating interactive and collaborative tools, and offering strong support systems. Furthermore, maintaining educational standards requires the integration of evidence based pedagogical techniques and continual professional development for teachers. This abstract emphasizes the need for a well-rounded viewpoint in order to fully utilize online learning's potential while resolving its inherent difficulties, thus fostering a more effective and inclusive learning environment.

Keywords: Online Learning, Blended learning, Adaptive Learning technology, Inclusivity in education, Learner engagement, Virtual Classroom and Remote Learning Challenges.

Professional Commitment of School Teachers in Relation to their Emotional Intelligence: A Study on the Teachers of Himachal Pradesh

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Abstract

Educational organizations across the world are known to work with both human and material resources, thus it wouldn't be inaccurate to state that if human resources aren't sufficient to manage the material ones, the material resources themselves won't function as they are intended to.Therefore, educational institutions even at global level need educators who are dedicated to their profession and who can not only recognize the regular issues that the institutions encounter, but also help to come up with practical solutions for these issues. The word "professional commitment" refers to a person's interest inwork, devotion to and belief in thecareerand their connection to the work environment. It is a person's sociopsychological attachment to his profession. The present study aimed to investigatethe Professional Commitment of school teachers in relation to their Emotional Intelligence. The study was conducted on a sample of 300 teachers of Himachal Pradesh, India. A descriptive survey was carried out for the quantitative data collection. The tools used by the researcher for data collection included; Teachers Emotional Intelligence Inventory by Mangal (2005)and Professional Commitment Scale developed by the investigator herself. Product moment method of correlation was used to study the relationship between variables and multiple regression analysis was applied to test the conjoint relationship among various dimensions of the variables. The analysis of data inferred that all the dimensions of Professional Commitment have significant positive relationship with all the dimensions Emotional Intelligence. Further, it was revealed that there existed statistically significant conjoint relationship among the dimensions of Emotional Intelligence and Professional Commitment.According to the findings of the study, a teacher who aspire to bring out the best in their students' needs to possess each of these non-cognitive qualities in order to act morally and lead a life of a role model to them.

Keywords: Emotional Intelligence, Professional Commitment.

Empowering Indian HEIs with SDG-Driven Curriculum Integration

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Abstract

The Sustainable Development Goals (SDGs) established by the United Nations are a universal call to action to end poverty, protect the planet, and ensure that all people enjoy peace and prosperity by 2030.The integration of Sustainable Development Goals (SDGs) into the curriculum of Higher Education Institutions (HEIs) in India is pivotal for fostering a generation equipped to tackle global challenges. This paper explores the transformative potential of embedding SDGs within the educational framework of Indian HEIs, aiming to cultivate a holistic understanding and commitment to sustainable development among students. By aligning academic content with SDG objectives, HEIs can empower students to contribute meaningfully to societal progress. The study investigates existing models of SDG integration, highlighting best practices and challenges faced by institutions. It emphasizes the need for a multidisciplinary approach that encourages critical thinking, problem-solving, and collaboration, preparing students to address complex real-world issues. Key recommendations include fostering partnerships with industry and government, promoting experiential learning opportunities, and incorporating SDG-related projects into the academic structure. This approach not only enhances the quality of education but also aligns with India's commitment to the United Nations' 2030 Agenda for Sustainable Development. By embedding sustainability at the core of higher education, Indian HEIs can play a crucial role in nurturing responsible global citizens and driving societal transformation. The findings underscore the significance of curriculum innovation in advancing sustainable development, advocating for a paradigm shift in educational practices to empower students as agents of change. An attempt has been made to draw focus on how Higher Education Institutions (HEIs) in India can incorporate the United Nations Sustainable Development Goals (SDGs) into their curricula.

Keywords: Curriculum, Higher Education Institutions, Sustainable Development Goals, Sustainability, United Nations.

Sustainable Crop Management: A Support System Tailored to India's Climatic Challenges

Sandeep Kumar[1*], Prabir Sarkar, Akhil Sharma, Mandeep Singh

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Abstract

The agriculture sector accounts for about 30% of the GDP (Gross Domestic Product) and provides two-thirds employment in India. However, agriculture sector is faced with serious challenges most of which are because it depends too much on rain-fed irrigation leading the production activities vulnerable to changes in rainfall patterns; pest attacks and increasing erratic climatic events.However, in order to tackle these and ensure food security, there is analarming need for sustainable crop management practices according to Indian climatic conditions. Rainfed areas in India are known for low and unstable productivity, the dominance of marginal and small operational holdings, unpredictable weather patterns with frequent droughts, extremely low-income levels, and the absence of assured employment opportunities, resulting in food insecurity leading to massive displacement of people to other locations for alternate livelihood options, malnutrition among children besides poor socio-economic conditions prevailing among the dwellers. Conversion of subsistence to a viable commercial and sustainable approach requires optimal utilization of rainwater & moisture, adoption of improved production technologies, alternate land-use systems, integrated farming systems and improved linkages with the end market is necessary. The aim of this study is to develop adecision support system (DSS) that facilitates farmers in decision making regarding suitable crops for their land having some agronomic and environmental attributes like nitrogen, phosphorus, potassium levels, temperature, humidity, average rainfall amount (mm), and soil pH. Additionally, the system is designed to forecast future crop yields by taking into account factors such as average rainfall, pesticide application, and typical temperature patterns for a specific year.

Keywords: Sustainable Agriculture, Climate-Smart Agriculture, Machine Leaning, Rainfed Farming, Water Management.

Development of Automatic Translation System for Punjabi Text to Indian Sign Language (ISL) Using Synthetic Animations

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Abstract

In the changing realm of technology-based education, efficient communication tools for many language groups are crucial. This work presents an innovative automated translation system for Punjabi text to Indian Sign Language (ISL) that employs synthetic animations, marking a substantial progression in the domain. At now, there is no extensive translation system available for Punjabi, since current solutions are restricted to basic dictionaries. Our system is the first rule-based automated translation for Punjabi language, created using Python and its web development framework, Flask.

The system includes a bilingual dictionary that contains 3,500 words, and there are plans for future expansion. The HamNoSys framework is employed to generate synthetic animations that faithfully depict ISL signals. These animations are validated by deaf students from a number of institutions in Punjab, their instructors, and ISL experts. The system's accuracy has been improved by the incorporation of natural language processing (NLP) tools, such as a Punjabi stemmer, part-of-speech tagger, and Punjabi to English transliterator. The system has achieved an accuracy of 80% for basic sentences and 70% for complex and compound sentences.

This system is intended for practical use in public spaces, by deaf school instructors, and, particularly, by parents of deaf students who are only conversant with Punjabi.

Keywords: Indian Sign language, HamNosys, Punjabi Text to ISL, Sign Language Generation System, Synthetic Animations and Indian Sign Language, ISL bilingual Dictionary.

The Dual Edge of AI in Education: Opportunities for Innovation and Challenges for Equity

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Abstract

Artificial Intelligence (AI) is rapidly transforming education, offering opportunities to personalize learning, enhance teaching methodologies, and optimize administrative processes. AI innovations, such as intelligent tutoring systems, adaptive learning platforms, and automated grading, are reshaping traditional educational models, enabling more tailored learning experiences for students and reducing the workload for educators. However, despite these advancements, the integration of AI in education brings significant challenges that must be addressed for its effective and ethical use. Concerns about data privacy, algorithmic bias, and the widening digital divide pose barriers to inclusive AI adoption, while the need for educators to adapt to AI-driven tools presents practical difficulties. This paper explores the dual nature of AI's role in education, analysing both the potential for innovation and the challenges to equity. By reviewing current AI applications in the classroom and identifying key obstacles, this study provides a comprehensive perspective on how AI can shape the future of education. It highlights how AI-driven tools, such as virtual assistants and personalized curriculum design, can enhance learning efficiency, but it also emphasizes the importance of addressing ethical considerations like algorithmic transparency and equitable access to technology. The need for responsible AI integration is emphasized to ensure that advancements benefit all students, regardless of their socio-economic backgrounds, and foster an inclusive educational environment.

Keywords: Artificial Intelligence, AI-Driven Tool, Education, Innovation Technology.

AI in Indian Education Opportunities and Challenges

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Abstract

AI In India Has the Transformative Potential to Improve Learning Experiences, Boost Teaching Methods and Optimise Educational Accessibility. However, AI Supports Personalized Learning and Customizes the Educational Content Based on One's Functionality While Enables Higher Forms of Assessment and Feedback. It Will Also Lead to Improved Access to Quality Education, Especially in Under-Served Areas and Skill Development for A Future-Ready Workforce. Nevertheless, In Order to Take Advantage of These Prospects: The Numerous Hurdles in Terms of Digital Divides; Not Varying Teacher-Training Systems; Data Privacy Concerns Require Addressing. Solutions Need to Work in Partnership with The Government, Private Sector and Academic Institutions for A Fair and effective application of AI Within an Education Landscape.

Keywords: Artificial Intelligence (AI), Personalized Learning, Educational Accessibility, Teacher Training.

A Systematic Review of Green Marketing Communication and its Effect on Brand Loyalty in the FMCG Sector

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Abstract

This study explores the uncharted terrain of green marketing communication within the Fast-Moving Consumer Goods (FMCG) sector, aiming to unravel its effects on brand loyalty. While the review illuminated extensive research on the influence of green marketing communication on consumer behaviour, a conspicuous gap emerged in studies focusing on the direct correlation between green communication strategies and long-term brand loyalty in the FMCG sector. This gap underscores the need for further exploration into how green messages resonate with consumers over time and foster sustained loyalty.The findings suggest that while green marketing can enhance brand trust and emotional engagement, challenges such as greenwashing and inconsistent communication hinder the potential of these strategies to secure consumer loyalty. Despite these challenges, this study is a pioneering effort to synthesize existing literature on green marketing's effect on brand loyalty, offering a foundation for future research to bridge the identified gaps.The implications of this review extend beyond the academic sphere, providing practical insights for FMCG companies striving to align their marketing strategies with sustainability goals.

Keywords: Fast-Moving Consumer Goods (FMCG) Sector, Green Marketing Communication, Brand Loyalty, Sustainable Consumer Behaviour.

Effectiveness of Insect Muscat Model to increase acceptance of albendazole in school students: A case study of Sri Muktsar Sahib district of Punjab

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Abstract

Albendazole tablet is an integral part of anemia control in children as they are more prone to worm infestation due to improper hand washing &Other hygiene habits. In the growing years of life, kids need frequent de-worming. So Govt provide deworming to schools. Teachers & ANM complain of children showing disinterest in taking albendazole tablets so often. Insect Muscat Model is an innovative way of educating about albendazole tablets. Most school teachers and ANM staff complain of children refusing to take albendazole as they don't understand the significance of taking it in their age group. So they need to be educated in their learning way. To Study impact of insect Muscat on children for intake of Albendazole tablets. To create awareness about albendazole tablets among students. An insect Muscat, albendazole tablets, group activity. For purpose of study primary data was collected from 450 students who were selected from 2 govt schools and 1 private school of age group 10-12 yrs, Sri Muktsar Sahib divided in 3 categories. Category A- Teachers distributed albendazole to every child. Category B- ANM went to class and told use of albendazole and instructed to consume it properly. Category C- Insect Muscat actor was taken to class and acted on pre-recorded voice for 2 min. and aware for significance of albendazole for de worming & controlling anemia.

Bhagavad Gita Teachings on Contemporary Education System: Adapting to Changing Educational Needs

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Abstract

The concept of 'Bhagavad Gita' arises from the Mahabharata which is an ancient Indian scripture, defines valuable thoughts in form of moral, spiritual, cultural or intellectual development of human personality as well as design a curriculum for teachers or students. This paper explores the relevance of Gita in modern education system of India. Incorporating Gita's teachings in education integrate the principles of selflessness, ethical leadership, educational growth or holistic development in view of academic or individual growth. The study examines that these teachings inspire self-confident in students which help to overcome with fear, stress and develop a positive or emotional approach. The main aim is to bridge a gap between ancient and modern education system which encourages teachers, students or scholars to reflect on Gita's enduring lessons and their application in education system of India.

Keyword: Bhagavad Gita, Contemporary Education System, Ancient Education System.

Attitude of Middle-Stage Children Towards Children with Special Needs in Inclusive Schools

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Abstract

Although there has been much advancement in the past ten years, millions of people are still deprived of their entitlement to education and the distribution of learning possibilities remains uneven. Approximately 40% of children lack access to education in a language they comprehend, and children with impairments persistently face a disproportionate level of exclusion from school (UNESCO, 2023). This inclusive approach is founded on the concept that every child possesses the ability to acquire knowledge and that each individual possesses unique abilities, requirements, and preferences for learning. Further, India's National Education Policy 2020 developed one of the most powerful features in the education system which is the replacement of the classic 10+2 framework with the 5+3+3+4 education system. The middle stage is from classes 6 to 8. In this journey of inclusion for a child with special needs, there are many factors which impact, however, the most important of them is the attitude of children, teachers and parents towards inclusive education. The majority of the time children with special needs are surrounded by other children in the class thus, their attitude towards them plays an important role in the efficacy of inclusive education. Thus, the current study aims to assess the attitude of children studying in the middle stage of schools towards children with special needs. This study employed the Chedoke-McMaster Attitude towards Children with Handicaps (CATCH) scale to collect data from a sample of 530 middle-stage children (6th to 8th grades) selected using the purposive sampling approach from Tricity. The collected data is analysed using the SPSS software by calculating the descriptive analysis that is mean and median and T-test. The study found that the middle stage children have a positive attitude towards children with special needs with female children having a higher positive attitude concerning their counterparts.

Keywords: Inclusive education, Middle-stage children, Children with Special Needs and Attitude.

Bridging the Gaps in Corporate Social Responsibility Contributions to Education in India: A Review of Challenges and Strategies for Sustainable Impact

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Abstract

Corporate Social Responsibility (CSR) has emerged as a significant avenue for businesses in India to contribute to social development, particularly in the field of education. However, despite notable efforts and increasing investments, there remain considerable gaps in CSR contributions to education in the Indian context. This review paper critically examines the key challenges and deficiencies in CSR initiatives related to education in India. These gaps include a predominant focus on urban areas, neglect of rural and marginalized communities, short-term project implementation without sustainable impact, and limited alignment with national educational goals such as the Right to Education (RTE) Act. Additionally, the lack of collaboration between corporate entities, government, and local educational institutions further hampers the effectiveness of CSR in this domain. This paper suggests actionable strategies to bridge these gaps, such as fostering long-term partnerships between corporations and grassroots organizations, improving accountability and impact assessment mechanisms, and aligning CSR efforts with the broader goals of India's National Education Policy (NEP) 2020. By addressing these challenges, CSR contributions can be better structured to make a meaningful and lasting impact on India's educational landscape, especially in underdeveloped regions.

Keywords: Corporate Social Responsibility (CSR), Education in India, Sustainable Impact, National Education Policy (NEP) 2020, Rural and marginalized communities.

The Importance of Community Engagement in Empowering Local Voices in Indian Education System

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Abstract

Community engagement is a crucial element in the development and success of educational systems. It fosters a collaborative environment where local voices are heard, valued, and integrated into the decision-making processes. This inclusivity not only enhances the quality of education but also ensures that educational initiatives are relevant and effective. The importance of community engagement in empowering local voices within the education sector can be analyzed through several dimensions, including its impact on educational outcomes, local ownership, and overall community well-being.Community engagement plays a significant role in improving educational outcomes. When local communities are actively involved in the educational process, they contribute valuable insights that can lead to more effective teaching methods, curriculum design, and educational policies. For instance, community members can provide feedback on what skills and knowledge are most relevant to the local job market, helping schools tailor their programs to better prepare students for future employment. Community engagement can lead to the development of culturally responsive curricula that reflect the diverse backgrounds and experiences of students. This inclusivity helps in creating a more engaging and relevant learning experience, thereby increasing student motivation and academic achievement.Community engagement also fosters transparency in how educational resources are allocated and used. When local stakeholders are involved in budgeting and planning processes, they can ensure that resources are directed towards areas that will have the most significant impact on students. This collaborative approach helps to build trust between schools and the community, leading to more effective and equitable education. The main aim of this paper is to analyse the importance of Community Engagement and participation in Empowering Local Voices in Indian Education System.

Keywords: Community, Community Engagement, Empowering Local Voices, Indian Education System

Innovative Virtual Library Tours Leveraging IoT Technology: A Framework for Enhanced User Experience

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Abstract

It is widely acknowledged that a system in which individuals can share their experiences is necessary for effective communication. In the library scenario, communication typically occurs in areas where users can see the library collection and locate the desired document. Users congregate in physical spaces separated by limits, such as stacks. By limiting what users can see and hear, these spaces provide a framework for collaboration. Actual locations can also serve as information structures. Books are an example of information objects that can be organized into sub-locations to facilitate searching and identifying specific information, such as subject areas, affinities, and real-time availability. The interactive framework for virtual library tours and procedures offer users more flexibility, usability, and information on their mobile device is designed. In the framework of distributed geographic visualization, "virtual tours" of user-defined paths are also enabled. Streaming and interactive visualization of filled polygon data are also supported, enabling for the provision of 3D buildings and other elements. The GATT server is made up of bookshelves that will send out beacon signals at regular intervals utilizing BLE technology. Clients using smart-phones, laptops, and other devices continuously scan a certain region for beacon signals from the GATT server and connect with the next layer to show important information to the user via a user interface. In the following step, a web service running on a cloud server returns a list of books in a shelf whose ID was acquired using mobile devices. Virtual library tour framework can be used to give new members an engaging overview of the library, collections, and library services. Patrons can get live assistance from reference librarians in a virtual setting that resembles the original surroundings.

Keywords: Virtual Library, IoT Technology, Academic Libraries, Innovative education, Digital Literacy.

Machine Translation of English News to Indian Sign Language (ISL) for Indian Deaf Community

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Abstract

Communication is a basic need of every human being in order to learn, express their emotions and discuss their plans, but deaf individuals cannot listen and speak. In order to tackle this problem, a technological solution can be facilitated. In this work, we proposed a machine translation technology to convert English News to Indian Sign Language (ISL) using synthetic animations. The proposed system performs a morphological, text normalization, tokenization, stemming, lemmatization on English news to translate it into Indian Sign Language glosses with the grammar rules and structure of ISL. To generate the ISL glosses, sign notation is used to represent 3D synthetic animations. In addition, we developed a parallel bilingual dictionary in the English news domain, which consists of 4926 words. Corresponding to these words, we prepared at least three synonyms and inflections that cover approximately 20, 000 words. The words that are not available in our database are represented through finger spelling. We evaluated our machine translation system on this corpus and concluded that our translation system provides an accurate translation of approximately 80% of the translated English News. This paper provides a comprehensive explanation of the system architecture, machine translation-based rules, synthetic animations and extensive experiments.

Assessing Emotional Intelligence Among Law Students in Jabalpur: A Comprehensive Analysis

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Abstract

Human beings experience a wide range of positive and negative emotions, such as joy, happiness, love, passion, excitement, grief, anger, and disappointment. Emotions, therefore, play a crucial role in shaping human personality. Emotional Intelligence (hereafter EI) is the ability to recognize these emotions and use that knowledge to guide and understand our feelings, behaviours, and situations. In today's dynamic and globalized world, EI plays a significant role in every aspect of human life including workplace success, leadership, personal relationships, the healthcare sector, education, etc. All of us have various levels of EI to confront various emotional challenges and handle them effectively. This study explores the level of awareness of EI among law students and its importance in their lives. The research methods and techniques used to identify and analyze the problems were based on primary data, i.e., descriptive survey method, and secondary data sources, such as research papers, books, case studies, reports, and journals. The sample size of the study consisted of 120 1st and 2nd-year B.A. LL.B. (Hons.) students of DNLU, Jabalpur, M.P. The EI scale, known as Goleman's Competency Model, was used for data collection to measure the emotional and social competencies of the students. Statistical methods such as averages, percentages, and other calculations were used to analyze and quantify the data. The study aims to highlight the importance of EI in legal education and to suggest that it should be included in the curriculum to help students handle the emotional challenges they will face in their future careers.

Keywords: Emotional Intelligence (EI), Law Students, Goleman's Competency Model, Educational Systems.

Digital Literacy: Navigating the Digital World in Education

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Abstract

Digital literacy, the ability to effectively and critically navigate, evaluateand create information using digital technologies, has become a cornerstone of modern education. In an era where digital tools and platforms dominate communication, learning, and professional spaces, understanding and fostering digital literacy is paramount. This paper focuses on the concept of digital literacy and its importance in education. In the 21st century, digital literacy has emerged as an essential skill for success in education and beyond. It transcends the mere ability to use digital tools, encompassing critical thinking, ethical usage, and the ability to navigate an ever-expanding digital landscape. As technology integrates more deeply into educational systems, fostering digital literacy becomes crucial for empowering students to learn effectively, think critically, and participate meaningfully in a connected world. Digital literacy equips students with the skills needed to succeed in a technology-driven world. It enhances their ability to access and analyze information, fostering independent learning and critical thinking. Educators can leverage digital tools to create more engaging and interactive learning experiences. Digital literacy also enables teachers to access a wealth of resources and professional development opportunities. It enables researchers to efficiently access a vast array of online databases, journals, and repositories. This ability to locate and retrieve information is fundamental for conducting comprehensive literature reviews and staying current with advancements in their field.Proficiency in digital tools allows researchers to manage large datasets, perform complex analyses and visualize results.Digital literacy facilitates collaboration among researchers globally. Tools like Google Scholar, ResearchGate, and Mendeley connect researchers, enabling the sharing of ideas, resources, and findings. Understanding digital ethics, including issues of privacy, data security, and intellectual property rights, is crucial. Digital literacy equips researchers with the knowledge to conduct research responsibly and ethically. As technology continues to evolve, it is imperative that educational institutions prioritize digital literacy to prepare students for future careers that will require advanced technological skills and digital proficiency.

Keywords: Digital Literacy, Education, Digital Tools, Technological Skills

The Role of Biotechnology in Circular Economy: Educational Strategies for Indian Colleges

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Abstract

The transition to a circular economy—a model that emphasizes resource efficiency, waste reduction, and sustainable resource use—is becoming increasingly important in addressing global environmental challenges. This presentation explores the critical role of biotechnology in advancing circular economy principles within the context of Indian higher education. By focusing on educational strategies, we aim to illustrate how biotechnology can drive innovation and sustainability in resource management. We will examine how biotechnology can contribute to various aspects of the circular economy, including waste valorization, bioremediation, and sustainable production processes. The paper will highlight successful case studies from Indian colleges that have integrated biotechnology into their curricula and research to promote circular economy practices. Specific examples will include the development of biodegradable materials, advanced waste treatment technologies, and resource recovery methods.In addition, we will discuss strategies for incorporating circular economy concepts into biotechnology education, such as curriculum development, interdisciplinary collaborations, and industry partnerships. The challenges and opportunities faced by educational institutions in adopting these strategies will be addressed, providing practical insights for educators and policymakers.By showcasing the intersection of biotechnology and circular economy principles, this paper aims to inspire and equip educators to foster a generation of students who are well-prepared to contribute to a sustainable and resource-efficient future.

Dictogloss: A Cooperative Approach to Enhance Listening, Speaking, Reading and Writing

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Abstract

Language is the primary means of communication and therefore it become imperetive for language users to acquire four major language skills i.e. Listening, Speaking, Reading, and Writing (LSRW). The present article explores how the dictogloss method supports the development of all four language skills in gaining proficiency in any language. The paper provides an overview of the dictogloss technique and its theoretical foundation. Furthermore, this paper attempts to explain, in detail, the steps involved in conducting a dictogloss activity with illustrative examples. It discusses the potential benefits of this method as well as concerns related to its implementation. This approach fosters cooperative learning and reduces the tendency for rote memorization.

Keywords: Dictogloss, Listening, Speaking, Reading, Writing, Cooperative Learning, Rote Memorization

Emotional Quotient in Students: A Need of the Hour or Not

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Abstract

In the Indian subcontinent the relationship between the tutor and the taught has always been revered. The concept of education was given even more importance after we gained our independence as it was the only source of getting ahead in the world and achieving success. Every year we see the number of students who attempt the prestigious exams like NEET, JEE, UPSC etc. increase but at the same time the students who graduate from the elite institutions in India are increasingly being termed as unemployable.

One of the primary reasons for this label is that when emphasising the importance of education, we as a society focused on marks rather than a holistic growth of the child which should have included personality development and inculcation of hobbies as well. Here the concept of emotional intelligence (EQ) also comes into the picture. If our students could develop a healthy EQ the incidents of students' suicide might also get lowered. India is home to 19% of the world's children. 440 million out of our total population happen to be children under 18 years of age. With our economy growing at such an exponential rate, it is high time that we focus on our youngsters who will enter the workforce. This paper is an attempt to learn the importance of emotional quotient in a student's life and to determine the ways by which it can be successfully inculcated in our students.

Keywords: Emotional Quotient, Students, Classroom Teaching.

Empowering India's Economy: The Pharmacy Sector's Remarkable Growth Story Post-Pandemic

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Abstract

The purpose of this research paper is to comprehensively analyse and evaluate the role of the Indian pharmaceutical sector as a significant growth driver for the country's economy, particularly in the post-pandemic context. It aims to assess the sector's profitability, opportunities, trends, and growth prospects, shedding light on its contribution to the national income and GDP. This research adopts a secondary data-based approach, leveraging existing data, reports, publications, and statistics. It employs content analysis to identify key themes and patterns within the pharmaceutical sector in India. Comparative analysis is conducted to assess the industry's growth in comparison to other countries. Statistical tools and techniques are applied to analyze data from reliable sources such as the Indian Brand Equity Foundation (IBEF) to accurately evaluate the sector's growth trajectory. The findings of this research highlight the pivotal role played by the Indian pharmaceutical sector in the country's economic growth, especially in the post-pandemic era. The sector has demonstrated robust profitability and is a key contributor to the national income and GDP. It is characterized by a surge in demand for medicines, drugs, and vaccines, supported by advancements in research and development, and evolving government regulations. This research contributes to the existing knowledge by providing a comprehensive analysis of the Indian pharmaceutical sector's growth story, considering its post-pandemic dynamics. It offers insights into the sector's profitability and its multifaceted impact on the economy, including enhanced medical infrastructure, business prospects, and overall economic growth. While this study offers valuable insights, it is based on secondary data and therefore subject to the limitations inherent in such an approach. The research provides theoretical contributions by exploring key enablers of the sector's expansion and their potential impact. The research underscores the significance of the Indian pharmaceutical sector in driving economic growth, offering opportunities for increased profitability, business development, and improved medical infrastructure. It informs policymakers, industry stakeholders, and researchers about the sector's potential contributions.

Keywords: Pharmaceutical sector, Growth engine, Indian economy, Post-pandemic, Profits, Opportunities, Trends, Key enablers.

Entrepreneurial Education for Global Career Readiness

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Abstract

Entrepreneurial education has emerged as a cornerstone for equipping individuals with the necessary skills, mindsets, and competencies to thrive in an increasingly globalized and technologically driven economy. As industries and labor markets evolve in response to rapid digital transformation, entrepreneurial thinking is no longer confined to the realm of business ownership but is recognized as essential for success in a wide range of professional settings. This paper explores the critical role of entrepreneurial education in fostering global career readiness, examining how it prepares learners to navigate complex, interconnected, and diverse work environments. Entrepreneurial education traditionally focused on teaching students how to start and manage their own businesses. However, the scope of entrepreneurial skills has expanded beyond venture creation to include broader attributes such as creativity, adaptability, leadership, resilience, and strategic thinking—skills that are increasingly in demand across industries. As the global economy becomes more fluid and unpredictable, organizations require employees who can innovate, manage uncertainty, and respond effectively to market shifts. This paper argues that entrepreneurial education is not only about preparing future entrepreneurs but also about fostering a mindset that is crucial for success in both entrepreneurial and intrapreneurial roles within established companies. The paper investigates key components of effective entrepreneurial education, with a particular emphasis on experiential learning, interdisciplinary approaches, and the integration of digital tools. Experiential learning, through activities like simulations, real-world problem-solving, internships, and startup projects, is identified as a central element in developing practical entrepreneurial skills. This approach helps students apply theoretical knowledge in dynamic, real-world contexts, allowing them to better understand and navigate the complexities of the global marketplace.

Additionally, the paper discusses the importance of developing cultural competence and global awareness in entrepreneurial education. As students enter a workforce that is increasingly globalized, the ability to work across cultures, understand diverse market needs, and adapt to international business environments is critical. Entrepreneurial education programs are evolving to include cross-cultural experiences, international collaborations, and global case studies that enhance students' global career readiness.

Digital literacy is another essential component of modern entrepreneurial education. The paper explores how digital tools, such as artificial intelligence (AI), big data, and e-commerce platforms, are reshaping business practices and enabling students to leverage technology in developing innovative solutions. The integration of these technologies in education helps learners understand digital business models, use data-driven decision-making, and scale ideas globally.

Through case studies and a review of successful educational models worldwide, the paper highlights best practices in entrepreneurial education that support global career readiness. Universities and educational institutions are increasingly adopting flexible curricula, incorporating mentorship, partnerships with industry, and opportunities for students to engage in entrepreneurial ecosystems. These approaches ensure that students not only acquire theoretical knowledge but also build the entrepreneurial mindset and practical skills necessary for today’s rapidly evolving global job market.

Finally, the paper discusses the broader implications of entrepreneurial education for inclusive economic growth and workforce development. As traditional career paths become less linear and predictable, entrepreneurial education offers a pathway for students to create opportunities, navigate uncertainty, and contribute to innovation-driven economies. It fosters not only individual career success but also broader societal impacts, driving job creation, economic resilience, and sustainable development.

In conclusion, entrepreneurial education plays a pivotal role in preparing individuals for global career readiness by equipping them with the necessary skills to succeed in diverse and uncertain environments. It nurtures a proactive mindset, enabling learners to identify opportunities, manage risks, and drive innovation across industries and geographies. This paper provides valuable

insights into the evolution of entrepreneurial education, emphasizing its critical importance for the future workforce and offering recommendations for educators and policymakers to further enhance its impact in the global context.

Keywords: Entrepreneurial education, global career readiness, experiential learning, innovation, digital literacy, adaptability, intrapreneurship, digital transformation, entrepreneurship, skills development

Enhancing Research and Development in Indian Biotechnology Education: A Global Perspective on Practices and Collaborations

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Abstract

The increasing global demand for biotechnological innovations necessitates a strong research and development (R&D) foundation in academic institutions. Indian biotechnology education, despite its potential, faces significant challenges in aligning with global R&D standards. This paper investigates the strategic enhancement of R&D in Indian biotechnology education through the adoption of global best practices and international collaborations. A critical analysis is conducted on the current infrastructure, curriculum design, and research output of Indian institutions, highlighting gaps in research funding, interdisciplinary opportunities, and industry-academia linkages.The study explores successful global biotechnology education models, particularly in North America, and Europe, focusing on their research-centric curricula, state-of-the-art facilities, and collaborative ecosystems. By benchmarking these models, key strategies are proposed, including incorporating advanced laboratory training, interdisciplinary research clusters, and establishing research partnerships with leading global biotech institutions. Furthermore, the paper examines case studies of existing India-global R&D collaborations, analyzing the factors contributing to their success and scalability.The findings emphasize the need for curriculum reforms that prioritize hands-on research experience and the development of specialized skill sets aligned with global biotech trends. Recommendations are made to strengthen the interface between academia and the biotech industry, promote innovation through research incubation hubs, and leverage government initiatives to enhance R&D funding.

Keywords: Biotechnology education, Research and development (R&D), Global R&D standards, Academic infrastructure, Curriculum design, Research output, Interdisciplinary research

Role of School-Based Nutrition Education in Empowering Healthier Communities

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Abstract

Education is a multi-faceted concept that emphasizes on the ability to reflect on own knowledge, skills and abilities. National Education Policy (NEP) 2020 focuses on skill based learner-centered approaches moving away from rote memorization. Nutrition education is a key tool in promoting healthier lifestyles and reducing the burden of nutritional deficiency among population.This paper examines the impact of integrating nutrition education in schools, aligning with NEP 2020 objectives and supporting the broader vision of "Viksit Bharat" promoting well-being across the nation.Targeting school children (6-18 year of age),intervention studies and survey studies were analyzed based on effective approaches and educational tools used to enhance learning outcomes. The data was explored using databases such as Web of Science, Google Scholar, PubMed, and Scopus etc.Results indicated significant improvement in the nutritional knowledge, attitudes and behaviours towards healthy eating choices with increased consumption of nutrient rich foods, better meal frequency, enhanced physical activity, reduced junk food consumption among school students. Various studies reportedthat school-based nutrition education interventions lead to significant reduction in BMI, blood pressure, improvement in HDL, hemoglobin levels, risk of obesity and type 2 diabetes. The study concluded that integrating nutrition education in schools plays a crucial role in shaping the perspective of students towards health and well-being leading to healthy dietary choices among students. Integrating experiential learning and parental engagement in these initiatives could further enhance their effectiveness in tackling malnutrition to prevent non-communicable diseases and contributing to build healthier communities.

Keywords: Nutrition Education, Health, Nutrient Deficiency, School Education, Experiential Learning.

Flexible Learning Pathways Adapting to Changing Educational Needs

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Abstract

To adapt to the changing educational needs of India, global development is possible only through flexible learning pathways. The Indian social and economic environment is diverse hence an education system should provide for varying learning styles and paces. Conventional classrooms limit personalized learning experiences, but by using technology and innovative teaching approaches there are various ways of providing a flexible path. High-quality education that matches learners' needs can be accessed through online courses, modular programs, or skill-based training must be mandatory to those who professes first, irrespective of geographical locations. Lifelong learning has been adopted worldwide preparing individuals for ever-changing labor markets, this approach is one of them. Marginalized groups can still gain access to education if they are allowed flexible spaces for participation in learning. Encouraging such adaptability in education could result not only in socio-economic growth domestically but also it would enhance international human capital base for India. This calls for embracing alternative educational paths that develop Indian students into globally well-informed citizens capable of coping with the unceasing changes experienced in contemporary society.

Keywords: Diverse, ModularProgram, Socio-economic, Unceasing

Globalizing Bhartiya Education: Strategies for Internationalization through Vedic Insights

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Abstract

Globalization has transformed education systems worldwide, encouraging nations to seek innovative approaches to strengthen their global academic presence. India, with its rich educational heritage rooted in Vedic philosophy, offers a unique perspective on holistic learning. This paper explores the internationalization of Bhartiya (Indian) education through the application of Vedic insights, proposing strategies that blend ancient wisdom with modern educational needs. By integrating Vedic principles such as interconnectedness, self-realization, and holistic knowledge, Indian educational institutions can offer a distinct yet globally relevant academic model, contributing to a richer, more inclusive global education landscape.

For this research we applying the DEMATEL (Decision Making Trial and Evaluation Laboratory) technique to the research on internationalizing Bhartiya education, we gain a clear understanding of the cause-and-effect relationships among the key factors involved:

1. Curriculum Development with Vedic Foundation
2. Green Education and Holistic Learning Models
3. Establishing Vedic Study Centers Worldwide
4. Institutional and Policy Support – "Planet Promotion Potential"
5. Cultural Exchange Programs

This research insight can guide policymakers, educational leaders, and institutions in creating effective strategies that leverage Vedic insights for global impact, ensuring that Indian education contributes meaningfully to the international academic community.

Keywords: Globalization, Bhartiya Education, Internationalization, Vedic Philosophy, Holistic Learning, DEMATEL

Globalizing Bhartiya Education: Strategies for Internationalization and Inclusive STEM Education

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Abstract

The globalization of Indian education presents immense opportunities for positioning India as a leader in international academia. This paper outlines a comprehensive framework to internationalize Bhartiya education, emphasizing the dual approach of increasing Indian student mobility to global institutions while attracting international students to Indian universities. Building on the National Education Policy (NEP) 2020 and Institutional Development Plans (IDPs), this research highlights curriculum innovation, cross-border collaborations, pedagogical readiness, flexible program pricing strategies, and post-graduation employment opportunities.

A central focus of the paper is on inclusive STEM education as a primary vehicle for internationalization, mitigating the technical barriers aligning with NEP 2020's vision of equitable access to quality education. The research explores lessons from global practices to reduce barriers for underrepresented groups, such as women and economically disadvantaged students, ensuring they have greater opportunities in STEM fields at both national and international levels.One key strategy involves early-stage collaboration at the school level, preparing students for global academic environments and smooth transitions into higher education. Additionally, the paper explores cost-effective pricing models and regional scholarships, making international education affordable and attainable for Indian students across continents.

A key strategy includes fostering early-stage collaborations at the school level, allowing students to acclimate to international pedagogical practices from an early age. This ensures a smooth transition into higher education, where Indian institutions can leverage joint degree programs, global certifications, and internships. Additionally, the paper explores flexible pricing models and scholarships based on geographic regions, allowing more affordable access to international education for Indian students, reducing reliance on traditional exams like IELTS, GRE, or GMAT.Additionally, the research highlights collaborations between Indian institutions and global universities that offer certificate programs, enhancing corporate professional development in India. These partnerships provide globally recognized credentials, enabling students and professionals to access international job markets and multinational corporations, fostering a globally competent workforce.

To validate the effectiveness of these strategies, the paper employs a Quantitative Impact Assessment, analyzing key metrics such as international student enrolment, participation in STEM programs, job placement rates, and the affordability of educational programs. Data from

government reports, international partnerships, university statistics, and global rankings are used to substantiate these strategies.

By implementing these initiatives, Indian higher education institutions can become globally competitive while promoting inclusivity, affordability, and access to international opportunities. This paper presents actionable strategies that position Indian universities as leaders in global education, with a special focus on inclusive and sustainable development in Higher education.

Keywords:
Internationalization, Bhartiya education, NEP 2020, Inclusive STEM Education, Global Partnerships, Gap Analysis, Program Pricing, Quantitative Impact Assessment, International Students, Internships.

Translation and Meaning: A Cultural and Semiotic Exploration

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Abstract

This paper deals with the complex and multifaceted discipline of translation that serves as an important tool for cross-cultural communication. It discusses the important aspects of translation that emphasis that translation is not only a word-for-word conversion of text from one language to another, but a complex process that requires through understanding of both linguistic and cultural contexts. The translator as a cultural mediator should be well versed with various challenges that includes cultural equivalence, semiotics, and with how meanings can change from one language to another. This paperalso focuses the concept of untranslatability, where linguistic and cultural gaps pose significant challenges.Through a comprehensive observation of translation as a semiotic and cultural activity, the article highlights the dynamic and complex nature of the translation process, where the translator's decision and cultural understanding play a pivotal role in achieving effective cross-cultural communication.

Keywords: Linguistic and cultural contexts, Cultural equivalence, Untranslatability,Semiotics

Artificial Intelligence in Education

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Abstract

Artificial Intelligence (AI) has become an increasingly integral part of various sectors, and education is no exception. AI in education refers to the application of machine learning, natural language processing, and other AI technologies to enhance and streamline educational processes.This includes the development of intelligent tutoring systems, adaptive learning platforms, automated grading systems, and AI-driven administrative tools. These technologies are designed to personalize learning experiences, improve educational outcomes, and increase operational efficiency within academic institutions.

The integration of AI in education has the potential to revolutionize traditional teaching and learning by offering personalized learning experiences, improving efficiency through automated administrative tasks, enhancing accessibility for students with disabilities, providing data-driven insights into student performance, and scaling to accommodate large numbers of students.This project explores the intersection of AI and education from a legal perspective, aiming to provide an overview of current AI technologies and trends, examine relevant legal frameworks related to data privacy and intellectual property, analyze ethical considerations such as bias and accountability, review pertinent case studies and legal precedents, and propose policy recommendations for the responsible use of AI in educational settings. By addressing these aspects, the project seeks to inform policymakers, educators, and technology developers on navigating the legal and ethical complexities of AI in education.

Water Purification Using Carbon-Based Materials for Environmental Sustainability and Water Conservation: A Review

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Abstract

To combat water pollution, water purification is one of such techniques. In this reviewdifferent views regarding purification utilizing graphene oxide and composites have beendiscussed. Graphene oxide related membranes can be framed using vacuum filtration method,pressure assisted filtration assembly over PVDF membrane support, dialysis technique andusing printer previously. Bacterial removal, dye removal, heavy metal ion removal,desalination, oil water separation can be done. Microorganisms Gram positive and negativebacteria, Escherichia coli and Bacillus subtilis have been reported to removed using grapheneintercalated membranes. Hexane, ethanol, helium can be filtered using graphene basedmembranes. Graphene oxide and Metal organic framework (MOF) prepared membranes have also applications in de-oiling water.Graphene oxide is helpful in removing other contaminants also efficaciously. Grapheneoxide and MOFare utilized in decolourizing azo dyes, for instance methylene blue, methyl orange andrhodamine B. Graphene oxide and MOF are helpful in removing in Na^{+}, Cl^{-}, Ag^{+} ions. Graphene oxidebore hydrophilicity due to oxygen containing functional groups which paved the way for itsapplication in water purification.MOF-based membranes are used in forward-osmosis (FO), reverse-osmosis (RO), nanofiltration (NF), and ultrafiltration (UF) processes.

Keywords: Graphene oxide, Heavy ions, Water purification, Membrane, MOFs, Bacteria.

Philosophy of Pratyabhigyan in the Indian Aesthtics towards Vasudev Katumbhakam- One World One Family

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Abstract

If Abhinavgupta's Abhinavbharti emphasizes on the concept of rasa, an emotional response experienced by the audience, Sahrydya to the work of art, his Pratyabhigyan Vimarsini explains the process of Self- recognition or pratyabhigyan from Kashmir Shaivism. Indian efforts to achieve One World, One family or Vasudevkutumbhakam , is a fundamental concept rooted in its thought system and itihas is witness to it. This research is an endeavour to look at the psycho-social impact of the Indian aesthetics. Appreciation for the work of art is not theme-based but decontextualization that frees the work and leads to aesthetic enjoyment. This happens through process of saadhaarnikaran or universalization which is expansion of consciousness that aids the recognition of sahrdaya. On the similar grounds the universal existence is independent of subjective and it has to be cognized by de-individualising subject. The highest reality, identical to 'All' i.e., Samasta can be recognized by the clear consciousness samavaapti of the essential nature (sampat) of the both existing and non-existing objects. Art transcends the limiting boundaries of time and space among other limitations that leads to manifestation of the Ultiamte Unity into diversity and the diverse limited beings or jivas when recognize others as their own self, leads to loksangrah and the World becomes One Family.

Keywords: Sahrdya, pratyabhigyan, saadhaarnikaran or universalization, Indian Aesthetics

Importance of Cultural Exchange in Education and Empowering the Youth of India

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Abstract

Cultural exchange plays a vital role in the modern educational landscape, particularly in a country as diverse and dynamic as India. By facilitating exposure to different cultures, languages, and ideas, cultural exchange not only enriches education but also empowers the youth, shaping them into global citizens who are better equipped to navigate the complexities of the 21st century. This essay explores the importance of cultural exchange in education and its role in empowering Indian youth, examining how it fosters personal growth, enhances educational outcomes, promotes mutual understanding, and contributes to national development.Cultural exchange refers to the process through which individuals or groups from different cultural backgrounds interact, share, and learn from each other. In an educational context, it encompasses activities such as student exchange programs, international collaborations, cultural events, virtual exchanges, and study-abroad opportunities. The primary aim of these exchanges is to provide students with a broader worldview, exposure to new ideas, and an understanding of global interconnectedness.Cultural exchange is a powerful tool for education and empowerment, offering Indian youth the opportunity to expand their horizons, develop critical skills, and become active participants in a global society. It enhances personal growth, enriches educational experiences, and promotes mutual understanding and global citizenship. For India, investing in cultural exchange is an investment in the future, one that will yield dividends in the form of a skilled, confident, and globally aware youth population.

As the world becomes increasingly interconnected, the importance of cultural exchange in education will continue to grow. By embracing cultural exchange, India can empower its youth to not only succeed in their personal and professional lives but also contribute to the country's development and its place in the world. Through cultural exchange, the youth of India can build bridges across cultures, foster innovation, and shape a more inclusive and prosperous future for all.

For Indian youth, cultural exchange goes beyond mere interaction; it is a pathway to self-discovery, critical thinking, and the acquisition of new skills. In a globalized world, where the boundaries between countries are increasingly blurred, the ability to understand and appreciate different cultures is crucial. By participating in cultural exchanges, Indian students can learn about the histories, traditions, and societal norms of other countries, enriching their education and personal development.

The main aim of this paper is to determine the Importance of Cultural Exchange in Education and Empowering the Youth of India and analyse its importance in bridging the gaps and creating a bridge between have and haven't.

Keywords: India, Education, Culture, Cultural Exchange, Youth, Empowerment

Research and development in Indian education: A global outlook

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Abstract

Higher Education is a very important sector for the growth and development of human resource which can take responsibility for social, economic and scientific development of the country.1 While, higher education gives India an edge in the world economy as evident from the availability of the skilled manpower, and research scholars working abroad, unemployment, illiteracy and relative poverty continue to be the major deterrents to realize her potential in human resources. The higher education system in India has grown in a remarkable way, particularly in the post-independence period, to become one of the largest system of its kind in the world. However, the system has many issues of concern at present, like financing and management including access, equity and relevance, reorientation of programmes by laying emphasis on health consciousness, values and ethics and quality of higher education together with the assessment of institutions and their accreditation. These issues are important for the country, as it is now engaged in the use of higher education as a powerful tool to build a knowledge-based information society of the 21st Century.

Keywords: Education, research, manpower.

The Bhagwad Gita's Psychological Insights on Mind, Body and Spirit: A Holistic Approach

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Abstract

A timeless work of philosophy and spirituality, the Bhagavad Gita provides deep understanding of the relationship between the mind, body, and spirit. This paper examines the Gita's psychological aspects and how they relate to self-realization, emotional regulation and mental health. The study emphasizes a comprehensive approach to comprehending human nature and promoting inner harmony by bridging ancient knowledge with modern psychology theories through an examination of important ideas like dharma (obligation), yoga (union), and detachment.

Keywords: Bhagwad Gita, Psychology, Mind-Body-Spirit

Language of new-gen toddlers: with loud voices and silent conversations /Early screen induced selective communication delay

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Abstract

Language development is a natural andbut complex development process in human life which starts from day 1 of infant in form of birth cry and keeps on developing with age , experiences and interests . Toddlers who were exposed to intensive screen > 4hours a day was presented as perceived language delay . There came a high rise in Selective language delay where child were able to speak virtual content ranging from Alphabets, numbers ,rhymes to favorite cartoon dialogues but unable to make need based or meaningful conversation. A Cohort study was conducted on 90toddlers who presented with selective speech delay during online consultation with help of set of Interviews with Parents and video consultation at regular intervalswith Toddlers and it was found that

1. Child is not able to communicate with Family and peers
2. He is always reciting Alphabets/ numbers / rhymes/ Cartoon voices of his own
3. He was exposed to Screen before 1 year of age for more than 4 hours(10 hours in few cases).

This was Perceived as selective speech delay as child was able to speak whatever he observed/ learned from screen of their own but was not able to talk or communicate with Peer or family members and not able to express their needsVerbally because of lack of interactive and social communication during developmental years resulting in Perceived Speech delay. There was a positive relationship between Selective speech delay and Screen exposure and was recovered when screen was reduced and interactive conversation was started within Family environment.

Keywords: Toddlers, language development, speech delay, impact of screen on development of toddlers

Analysing Teacher Intentions to Adopt MOOCs in Haryana: Extended TAM model

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Abstract

Most studies have extensively explored e-learning from the viewpoints of learners, but there are very few high-quality empirical studies on the adoption of massive open online courses (MOOCs) from the viewpoint of teachers specifically in Haryana. In addition to achieving these goals, the research being presented is unique because it is the first to use a technology acceptance model from the viewpoint of Haryana educators prospective. Using the Technology Acceptance Model as the foundation, we expand the model to include external and perceived variables, and propose several hypotheses. To achieve these goals, a structural equation model was employed using PLS 4.0 software and a survey was completed by 287 participants from Haryana. All of the hypotheses are supported by the research findings, demonstrating that the extended variables are a reliable indicator of whether educator will adopt MOOCs. Additionally, a comprehensive examination is provided of the factors that might influence teachers' intension to adopt MOOCs in the near future. subsequently, we discuss the study's outcomes limitations, and practical implications for the advancement of educators.

MATHEMATICS EDUCATION: A CATALYST FOR GLOBAL PROGRESS AND DEVELOPMENT

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Abstract

Mathematics plays a pivotal role in shaping global progress by driving advancements in science, technology, and critical problem-solving skills. The importance of mathematics education cannot be overstated in today's rapidly evolving world, where data-driven decisions and technological innovations are essential for sustainable development. This paper explores the pivotal role of STEM in driving innovation and addressing global challenges, with a focus on its evolution and impact. In India, premier institutions such as IITs, IISERs, and NITs have made significant strides in STEM education and research, contributing to advancements in fields like quantum computing, hydrology, and aerospace. STEM promotion efforts include project-based learning, interdisciplinary courses, and data-driven education reforms. Global collaboration through conferences, research projects, and online platforms further enhances knowledge-sharing. Additionally, NGOs and mathematical societies are essential in advancing mathematics education. NGOs improve access to quality education in underserved areas through innovative programs and advocacy, while mathematical societies support research, collaboration, and educational events. It examines how NGOs contribute to improving mathematics education through curriculum development, teacher training, and resource provision. By leveraging educational technologies such as interactive software, online courses, and virtual classrooms, NGOs enhance math learning experiences and expand access to quality education. The use of data analytics further supports educational reform by assessing outcomes, identifying gaps, and tailoring interventions to meet diverse learning needs.

Keywords: Mathematics education, global development, critical thinking, STEM, inclusive education, interdisciplinary learning, educational innovation.

The Importance of Crime Scene Management

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Abstract

Article 51 A(h) of the Indian Constitution states that every citizen ought to develop scientific temper, humanism and the spirit of inquiry and reform by way of fundamental duty. The Universal Declaration of Human Rights too directs the member nations to create such conditions under which the ideals of free human beings, enjoying civil and political freedom from fear and want, can be achieved. These obligations are important to bring forth a progressive society that is free from irrational activities. Crime is one such irrational activity which is antithetical to peace and progress of society.

In a country like India, where a large section of population is uneducated, social set up is heterogeneous, public-police relations are not very cordial, poverty is rampant and unemployment widespread, it is not surprising that crime rate is increasing exponentially. In majority of serious crime cases, hi-tech measures are being adopted by perpetrators. In retrospect, the police personnel, the investigators and the forensic scientists who visit the scene must be well versed with the modus operandi of the criminal, irrespective of their academic qualifications. The decisions of these officers bear a strong influence on the eventual outcome of the criminal investigation. It is therefore pertinent that they must receive training and guidance to inculcate the spirit of scientific temperament in decision making and consistently upgrade their knowledge of dealing with such cases.

The criminal justice system is concerned with safeguarding the human rights of the victim of crime and penalizing the suspect of crime. Both the objectives can be achieved only if the integrity of the site where the criminal activity occurred in the first place is conserved so that further investigations may be carried out unhindered. Managing the crime scene – scientifically and methodically – involves three broad protocols. (i) Steps taken by police to preserve and protect the crime site; (ii) steps taken by investigators to collect and pack the evidence; and (iii) steps taken by forensic scientists to analyse and interpret the evidence.

This presentation sums up the importance of these protocols, as well as highlights the societal significance of crime scene management.

Decentralized Authentication for Virtual Tourism: Enhancing Education in the Metaverse Era

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Abstract

Transcending the economic and geographical barriers, virtual tourism has the potential to revolutionize Indian education system by delivering interactive and immersive learning experiences. Utilizing advanced technologies such as virtual reality (VR), augmented reality (AR) and digital twins, the students and educators can virtually traverse the cultural sites, historical landmarks and scientific facilities, fostering an engaging and experiential form of education. This paper introduces a novel framework designed for educational institutions, integrating certificateless cryptography and blockchain technology to facilitate secure and streamlined access to virtual environments. In the proposed work, the registration and authentication processes are carried in a decentralized manner. The use of IoT sensors provide real-time updates within the environment. Further, the incorporation of IoT sensors and metadata binding on the blockchain, fosters dynamic interaction, reinforcing the overall educational experience. This approach not only aligns with the goals of the Indian education system to democratize learning opportunities but also enhances its global reach and relevance by integrating technological innovation.By highlighting the potential of virtual tourism to foster an inclusive and tech-driven educational landscape, this work lays the groundwork for its integration into the Indian education system, contributing to global educational development and innovation.

Restructuring and Reskilling the Educational Curriculum adapting Pedagogical Approaches promoting Lifelong Learning: A Study of Teacher Education Institution

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Abstract

Teacher education institutions play a critical role in creating a good learning environment using best practices and innovative pedagogies to produce trained and efficient teachers. To meet the dynamic needs of the society demands a change in the existing educational set-up and becomes imperative for the educators and students to be consistent learners and be open to new ideas and skills to reskill and upskill themselves at the personal and professional front and remain productive in their roles.

The present study is exploratory in nature and is an endeavour to examine the efficacy of course curriculum designed as per NEP 2020 and Sustainable Development Goal 4 (Quality Education) for the lifelong learning (NEP 2020, Pt 11.5) and continuous skill development of prospective teachers. Using a mixed method approach, the sample population of the research study includes 90 prospective teachers of B.Ed and M.Ed Program of Teacher Education Institution (Department of Education, Chitkara University, Punjab).

The findings of the study revealed that the teacher education institutions well equipped with human, financial and physical resources should focus on the continuous development of the learning ecosystem adapting to strategies promoting continuous learning. The curriculum should be re-designed and activities like integration of AI in education (NEP 2020, Pt 23), art and aesthetics, grooming sessions, interview preparations and e-portfolio construction, language proficiency, story-telling, role play, content creation through blogs, comic strips, podcast etc. should be promoted to enhance the skills required to make them job oriented and meeting the industry demands.

Keywords: Lifelong Learning, Teacher Education Institution, Innovative Pedagogies, Continuous Development, Learning Ecosystem

Rethinking curriculum: aligning Indian Education with global standards

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Abstract

The evolving global landscape demands education systems that not only impart knowledge but also equip students with critical thinking, problem-solving, and digital skills. India's current educational framework, while rich in tradition and academic rigor, often falls short in preparing students for a rapidly changing world. The National Education Policy (NEP) 2020 has taken steps to address this gap, yet more focused efforts are needed to truly align Indian education with global standards. This abstract explores the critical need for curriculum reform in India, emphasizing the integration of contemporary subjects like artificial intelligence, environmental sustainability, and interdisciplinary learning, alongside traditional academic fields. Furthermore, it advocates for pedagogical shifts from rote learning to more experiential, inquiry-based methods that encourage creativity and innovation. Global benchmarks from countries such as Finland, Singapore, and Canada can offer insights into fostering holistic education that balances academic achievement with skills development. By adopting international best practices while maintaining cultural relevance, India can create a more globally competitive education system. Aligning with global standards will not only enhance the quality of education but also prepare Indian students to thrive in an interconnected world. This paper outlines key strategies for reform, including curriculum redesign, teacher training, and technology integration, and argues that a forward-thinking, globally aligned education system is crucial for India’s future workforce and socio-economic development.

UNIVERSAL DESIGN FOR LEARNING (UDL)ASPRACTICE FOR INCLUSIVE CLASSROOMS FOR STUDENTS WITH INTELLECTUAL DISABILITIES

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Abstract

UDL is an educational approach that aims to provide all students with equal opportunities to succeed. This method offers flexibility in how students access materials, engage with the content, and demonstrate their knowledge. As part of a broader movement to create a more accessible and usable world for everyone, including those with disabilities. When adopting a UDLapproach, teachers create flexible learning experiences to meet the needs of individual learners. They prepare the learning environment with adaptable methods, materials, and strategies, allowing them to better address the needs of every student. UDL offers all students the opportunity to access, participate in, and progress within the general education curriculum by reducing barriers to instruction.The present study explores the application of UDL to design lessons that effectively accommodate the variability of learners in inclusive classrooms. Teachers play a crucial role in guiding learners through the integration of UDL principles, which emphasize providing flexible options and support to ensure that lessons aligned with academic standards are accessible to a diverse range of students in their classrooms. This article outlines a method for teachers to create lesson plans based on academic standards. By unpacking these standards and integrating UDL into the planning process, educators can establish precise objectives that align with academic standards. They can then devise adaptable teaching methods, assessments, and materials tailored to meet the diverse needs and preferences of all students. This approach supports both general educators and special educators in crafting inclusive lesson plans that cater to the learning requirements of every student, including those with disabilities.

Keywords: Flexibility, aligned, assessment, crafting, accommodate.

Rural Women Empowerment of Ambala Cantt Through KVK Trainings of Cow Milk & Milk Products

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Abstract

This study evaluates the effects of training programs conduct by Krishi Vigyan Kendra Ambala of cow milk's products and the economic empowerment of rural women in Ambala Cantt, Haryana. Since the manufacturing of cow milk and value addition products offers both social and economic advantages, it is a significant choice for empowering rural women. This study examines how cow milk products affects women's livelihoods in rural areas today, emphasizing how it fosters skill development and financial independence. Before to these trainings, rural women have faced numerous obstacles, including restricted market access and a lack of resources for training women. In order to remove these barriers and empower rural women, the KVK is assisting them by providing them with a variety of trainings. The women were given technical knowledge and skills by KVK to make a variety of cow milk products and improve their quality. They also learned various strategies that helped them create sustainable livelihoods, which improved their financial situation and decreased their reliance on outside sources. Through these trainings rural women learn to handle manufacturing, marketing, and sales and also have also improved their entrepreneurial abilities. Improved decision-making , increased financial independence, and increased social recognition in their communities were all noted by the participants. In addition to preserving traditional dairy techniques, the program encouraged rural women to become economically independent. In conclusion, these studies explore impact of KVK's training support rural women's empowerment via dairy entrepreneurship.

Keywords: Cow Milk, Value Addition Milk Products, Dairy Industry, Rural Women Empowerment, KVK Trainings.

Scope of Artificial Intelligence Tools in Ushering Entrepreneurship Through Common Service Centres in Assam and Punjab

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Abstract

Artificial intelligence (AI) has the potential to transform scientific, marketing, and other types of research, making citation and information gathering a whole lot easier. With powerful AI tools at their disposal, researchers from all walks of life are using AI to scan large datasets, enhance communication and fact-gathering amongst teams, and even improve their writing, making it easier to publish their findings. AI tools can be used in a variety of industries, from healthcare and finance to marketing and education. Further, AI tools can be used to automate tasks, analyze data, and make predictions based on patterns and trends, leading to increased efficiency and accuracy. Based on the review of the literature, the top ten AI tools identified which contribute to entrepreneurship in Common service centres (CSCs) in Assam and Punjab. The research identified that the top AI tools trained had a significant effect in ushering entrepreneurship in the following parameters -customer footfall, income generation, expansion of the new market potential, and customer satisfaction at CSCs Kamrup, Assam and Rupnagar, Punjab. The comparative analysis approach for two different states is studied to identify the relevance of AI tools for ushering entrepreneurship at CSC comprising 50 centres in each state. The study found that CSCs in Punjab are significantly more active in utilising AI tools compared to the CSCs, in Assam. This research highlights the scope of AI tools relevant to entrepreneurship and will encourage future entrepreneurs from CSCs.

Keywords:- AI Tools, Entrepreneurship, Common service centre

EFFECTIVE CLASSROOM MANAGEMENT PRACTICES UNDER INCLUSIVE EDUCATION

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Abstract

Classroom management begins even before school or teaching-learning starts for students. There are widespread notions about the nature and characteristics of teaching. It is a broader term that aims to change the behavior of a learner. Teachers should develop a learning attitude among students by creating a positive learning environment. The present study aims to highlight the approaches and significance of classroom management for the meaningful inclusion of children with disabilities under an inclusive education system. Different research papers based on effective classroom practices have been critically reviewed to select effective strategies. It has been observed that multifaceted factors have remained responsible for the ineffectiveness of inclusive education in schools. Apart from foundational strategies, specific strategies are effective in dealing with the diverse learning needs of students. How teachers design and organize the physical environment in a classroom, plays an important role in determining how students will respond, learn, and relate to one another and the teacher. In the 21st century, classrooms have become inclusive, and teachers must create an environment reinforcing learning. As the core component of inclusive education, restructuring the classroom enables all children to learn even those with exceptionalities. It is more than how teachers control students in their classes. Someone walks through the corridor of school and peeks into the classroom it is not only that students are silently doing their assignments, and worksheets, listening to the teacher's directives. In various research based on effective classroom management, it is proclaimed that better classroom management leads to improved learning outcomes.

Keywords: Notions, Significance, Reinforcing, Restructuring, Proclaimed

Spatial Distribution and Health Risk Assessment of Uranium in Groundwater and Surface Water of Fatehgarh District, Punjab

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Abstract

This study presents an assessment of uranium concentrations in groundwater and surface water from 50 locations in the Fatehgarh district of Punjab. Water samples were collected from various sources, including submersible pumps, tubewells, handpumps, government water supplies, and surface water, at different depths ranging from 35 meters to 500 meters. The uranium concentrations in these samples were measured, along with associated physicochemical parameters such as pH and gamma field radiation.The results indicate significant variation in uranium concentrations, ranging from 2.81 µg/L to 67.09 µg/L. The highest concentration was observed in Tarkhan Majra (67.09 µg/L) at a depth of 150 meters from a tubewell, while the lowest was recorded in Shivdaspur (2.81 µg/L) from surface water. On average, higher uranium concentrations were found in tubewell sources, whereas surface water samples generally exhibited lower values. The pH of the water samples ranged between 7.2 and 8.7, with most samples exhibiting neutral to slightly alkaline conditions, which may influence uranium solubility and mobility.Gamma field readings were also recorded at each site, with values ranging from 0.1 to 0.2 µSv/h. These readings help assess the potential radiological hazards in the region. The uranium concentration in most locations was below the permissible limits set by international safety guidelines, but a few sites exhibited higher concentrations that may pose a health risk with prolonged exposure.

This study underscores the importance of continuous monitoring of uranium levels in groundwater, particularly in agricultural regions, where the use of such water for irrigation and consumption can lead to long-term health impacts. Further investigations into the factors influencing uranium mobilization, such as soil composition and water-rock interaction, are recommended to ensure safe water quality standards for the local population.

Keywords: - Fluorimetry Technique, Spatial distribution, Uranium, Ingestion dose.

Study of Factors Affecting Customers' Investment Decision in Term Insurance Plan

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Abstract

Term insurance in India provides financial benefits to the beneficiary of policy holder's death during term period. As an investor during investment in term insurance having so many factor worked as determinant for investment and it is very crucial for insurance company to identify then that are playing as a major factor for investment. This paper is attempting to find out factors that affect the investment in Term Insurance plan. In the study primary data is collected through structured questionnaires based on five point Likert scale. And collected data is analysis by Applying factor analysis**.** The factor analysis is used to analyse the primary data of 237 respondents and found six factors significantly affects the investment decision of investors that are term insurance information, term insurance services,term insurance ethics and documents, term insurance benefits, term insurance assistance and term insurance cost. Insurance companies should consider these six factors when formulating their strategies to increase investments in term insurance. By addressing customers' needs and expectations related to information, services, ethics, benefits, assistance, and cost, insurance companies can provide quality services and ultimately increase customer satisfaction. The study provides valuable insights into the factors influencing customers' investment decisions in Term Insurance plans. The results highlight how crucial it is to take into account these variables in order to grow customer acquisition and retention rates, increase investment rates, and guarantee client happiness in the insurance sector.

Keywords: Factor analysis, Financial sector, Investment decision, Risk, Term insurance

Sustainablitity Through Green Education: Perspective Of Higher Education Institutions In india.

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Abstract

Green Education encompasses holistic learning approaches integrating environmental, social, and economic aspects for sustainable development. The concept of green education is closely related to the United Nations' Agenda 2030 for Sustainable Development. It provides a road map for integrating sustainability into education system by empowering learners for climate action in a holistic manner. The Viksit Bharat Abhiyan also emphasizes the importance of embracing renewable energy and environmental conservation efforts to ensure sustainable progress. Although the concept of green education is incorporated at school level through the implementation of New Education Policy (NEP) 2020, the concept is still raw at higher education level. The current work focuses on understanding the concept of green education and its implication at higher education level. The methodology involves qualitative analysis of curriculum, strategies adopted by selected universities for implementing green education in practice and student's perspective towards implementation of green education at higher education level. The tools incorporated for the study involve secondary data analysis such as curriculum details of selected universities and questionnaire for primary data collection to understand the perspective of students. The study's conclusions offer an overview of the idea at the postsecondary level and offer recommendations for improving the way green education is implemented in colleges. The study is limited to the primary data collection from the students of graduate level and from one university only. The scope of the study can be further extended by incorporating a larger sample size for data collection.

Keywords: Green Education, Higher Education, Curriculum Design, Sustainable Development, Viksit Bharat Abhiyan

The Impact of Micronutrient Deficiency on Cognitive Development and Scholastic Performance

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Abstract

Micronutrient deficiency, often termed "hidden hunger," is a prevalent global health issue, particularly in developing countries. Essential vitamins and minerals like iron, iodine, zinc, and vitamin A are crucial for cognitive function, growth, and overall development in children. Inadequate intake of these micronutrients can impair cognitive abilities, attention, and memory, leading to poor scholastic performance. Understanding the relationship between micronutrient deficiencies and academic outcomes is vital for implementing effective interventions in educational settings. This review aims to examine the impact of micronutrient deficiencies on the cognitive development and academic performance of school-aged children, exploring existing evidence to highlight the importance of addressing nutritional deficiencies for improving educational outcomes. A comprehensive review was conducted by screening relevant databases, including PubMed, Google Scholar, and Scopus, for articles published between 2010 and 2024. Search terms included “micronutrient deficiency,” “cognitive development,” “school performance,” “children,” and “nutrition intervention.” Inclusion criteria focused on studies that investigated the relationship between key micronutrients (iron, iodine, zinc, vitamin A) and scholastic performance in children. Observational and Interventional studies were included for review. The review highlights strong evidence linking deficiencies in iron and iodine to diminished cognitive function, decreased attention span, and poor academic performance. Zinc deficiency was associated with impaired memory and slower information processing, while vitamin A was crucial for visual development, impacting reading and learning abilities. Intervention studies showed significant improvements in cognitive performance and school outcomes following micronutrient supplementation. These findings emphasize that addressing micronutrient deficiencies in school-aged children is critical for optimizing cognitive function and enhancing scholastic achievements. Micronutrient deficiencies, particularly in iron, iodine, zinc, and vitamin A, have a significant negative impact on children's cognitive development and school performance. Nutritional interventions, including school-based supplementation programs, can improve academic outcomes. Incorporating nutrition education and food-based strategies in schools is essential to combat hidden hunger and promote better scholastic performance.

Keywords: Micronutrient deficiency, scholastic performance, cognitive development, iron deficiency, iodine deficiency, nutrition intervention.

EDUCATION OF TRIBAL WOMEN IN INDIA: ISSUES, CURRENT STATUS AND CHALLENGES FACED

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Abstract

Education opens up plethora of avenues for individuals by empowering them with the knowledge, skills, habits and beliefs. Particularly, women education is a key to transform the facets of any society. Women constitute almost half of world's total population. According to 2011 census, India constitutes 48.27% of woman population. Most disappointing fact is that, country having such a high ratio of women section still lack behind in their status and empowerment. The situation is more severe among the tribal or primitive societies, which constitute approximately 8.9% of the total population of the country numbering 104.30 million. The tribal women constitute about half of the total tribal population, but still they lack access to education. Female literacy among tribes is only 49.40 % compared to male literacy of 68.50%. This study explores the literacy gap between men and women in India's tribal communities, addressing the systemic challenges tribal women encounter in accessing education. Additionally, it examines government interventions aimed at closing this gap. The analysis underscores the necessity for targeted interventions, community involvement, and policy reform to promote inclusive and equitable education for tribal women in India.

Keywords–Tribal Women, Women Education, Literacy Gap, Social Inclusion, Equitable Access to Education

Timeless Wisdom, Modern Minds: Uncovering Student's Motivation for enrolling in Gurukul in the Present era

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Abstract

India i.e., Bharat has been a land that was known to the world for its rich and valued educational system. The traditional learning centers of ancient India included – gurukuls, forest universities, temple universities, and many more. However, as time progressed, major regime changes had significant impact on this precious educational landscape reducing these learning centers to a countable few. Although enormous effort from visionaries like Swami Dayanand Saraswati, Swami Shraddhanand, etc. helped revive the gurukul based educational system which have managed to remain existent in the current educational scenario, however, it still remains unclear as to what drives the current youth in joining a Gurukul in the present era with diverse study options available. In the current educational landscape where a multitude of courses are being offered by numerous colleges, it is unclear why students prefer to enroll in gurukuls for higher studies. 28 undergraduate students from three gurukuls consisting of 20 males and 8 females took part in the study. These students were enrolled in gurukuls at Najibabad, Uttar Pradesh; Nangloi, Delhi and Pondha, Uttarakhand. After conducting Focus group discussion (FGD)at each of the respective gurukuls, the responses were subjected to Thematic Analysis for deriving overarching themes. The analysis of gurukul students FGD responses resulted in broad themes of – i) Ardent interest towards ancient Indian culture, tradition and Sanskrit, ii)Gurukul environment fostering holistic development, iii)Enduring influences from family and relatives. The study findings outline the reasons why students enroll in gurukuls to pursue higher education. The study shall help the Gurukul administration understand why students are enrolling in a gurukul for higher studies, in addition to educating today's youth about the motivations of their peers in the gurukuls.

Keywords: Gurukul, Motivations, Present era, Students, Undergraduate

Recent Challenges and Research in Quality Education

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Abstract:

This seminar paper explores the critical challenges and ongoing research in ensuring quality education in modern times. It highlights the importance of quality education in the context of UNICEF's Sustainable Development Goal 4 and examines the barriers to its effective implementation. The paper addresses key questions such as how to ensure quality education, the role of assessment, monitoring, governance, and accountability, and the potential impact of spirituality and morality in this domain. Furthermore, it evaluates the contribution of modern technologies, including ICT and Artificial Intelligence, in enhancing educational standards. With a focus on the Indian perspective, the paper provides insights into the current state of quality education in India and offers practical suggestions for its effective implementation.

Keywords: Quality Education, Challenges, Solutions, Research, Indian Perspective.

Early Detection of Brain Tumor Using MRI Scan

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Abstract:

Brain tumor detection remains a critical challenge in medical diagnostics, requiring precise and timely interventions to improve patient outcomes. Manual interpretation of MRI scans is prone to errors and delays, underscoring the need for automated solutions. This study presents an innovative approach to brain tumor detection using MRI images, employing advanced machine learning algorithms and image processing techniques. By leveraging the predictive capabilities of these models, the system achieves high diagnostic accuracy while minimizing false positives and negatives. The roposed solution is integrated into a user-friendly Android application, enabling seamless interaction for medical professionals and patients. Users can upload MRI scans and receive diagnostic results in real time, facilitating prompt decision-making. This automation reduces reliance on manual analysis, offering faster, more consistent, and reliable outcomes.

This project bridges the gap between cutting-edge medical technologies and their practical application, enhancing accessibility and usability for diverse stakeholders. By empowering healthcare providers with efficient diagnostic tools and delivering timely results to patients, it contributes significantly to the early detection and management of brain tumors. The integration of machine learning into medical diagnostics demonstrates the transformative potential of technology in healthcare, marking a step forward in addressing life-threatening conditions with precision and efficiency.

Keywords: Brain Tumor Detection, MRI Analysis, Machine Learning in Healthcare, Medical Diagnostics, Android Application, Automated Tumor Detection, Healthcare Technology.

Digital Overload and Adolescent Cognition: A Psychodynamic Approach to Learning Difficulties

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Abstract

Adolescents face mounting challenges in adapting to the rapid evolution of educational modalities, a difficulty exacerbated by excessive internet use. This study investigates the prevalence and impact of internet-induced learning difficulties in adolescents aged 12–18 through a novel mixed-method approach grounded in psychodynamic theory. While diagnostic frameworks such as DSM-5 and ICD-10 were initially evaluated, the study adopted the PDM-2 framework due to its holistic assessment of psychological functioning across three axes: mental functioning (MA), personality patterns (PA), and symptomatic distress (SA). A web-based Likert scale quiz was developed to assess these axes, and the results were analyzed through descriptive statistical methods.

The findings reveal alarming trends, with adolescents who reported internet usage exceeding six hours per day exhibiting significant cognitive impairment and emotional dysregulation. Their learning difficulty scores averaged 80.87, correlating strongly with heightened symptomatic distress (mean Axis SA score: 73.42) and diminished mental functioning (mean Axis MA score: 44.45). These results align with existing literature on the detrimental effects of prolonged internet exposure on attention, emotional stability, and academic performance, emphasizing the interplay of environmental and psychological factors. Reverse causation and confounding variables were meticulously analyzed to ensure the robustness of these findings.

The methodology was validated through a structured questionnaire reviewed by mental health professionals, who provided positive feedback on its reliability and relevance. These findings underscore the urgent need to address internet-induced learning difficulties through integrative interventions. The study concludes by proposing the development of a cyberpsychology-based

application utilizing the psychodynamic framework for implementation in professional educational.

Keywords: Adolescents, Internet Usage, Learning Difficulties, PDM-2, Cyberpsychology

Study on the Impact of CCS on the Structural and Optical Properties of ZnO

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Abstract

Candle carbon soot (CCS), traditionally regarded as an undesirable source of air pollution, has recently found new technological applications thanks to advanced techniques. CCS is an environmentally friendly and cost-effective material from the carbon family, showing potential uses in various fields such as gas sensors, solar cells, and water/oil separation. We synthesized a ZnO/CCS nanocomposite in this work using a straightforward chemical method. The phase study of the composite was characterized using X-ray diffraction (XRD), the optical band gap is calculated using UV-Vis spectroscopy, and the morphology of as-synthesized samples are investigated by field emission scanning electron microscopy. Our findings indicate that incorporating CCS into ZnO enhances its structural, optical, and photochemical properties. The band gap of ZnO changes with the incorporation of CCS, suggesting successful doping of CCS into the ZnO lattice. This doping improves the material's light absorption capacity, extends its light-response range, and enhances its photocatalytic activity. The ZnO-CCS composite shows promise as an effective photocatalyst.

Keywords: ZnO, CCS, nanocomposites, UV, Photocatalyst.

A Study to Explore The Perception of Teachers and Learners Towards Entrepreneurship Mindset Curriculum and its Practices in Delhi.

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Abstract

India's rapidly growing population faces the impending challenge of unemployment due to a traditional "job mindset" rooted in socioeconomic conditioning. Addressing this, the Delhi Government introduced the Entrepreneurship Mindset Curriculum in its schools as a transformative socio-economic intervention. Aligned with Mahatma Gandhi's Nai Talim, EMC emphasizes self-reliance, innovation, and economic independence by fostering critical thinking, problem-solving, resilience, and creativity among learners. Key components of EMC include experiential learning, daily dedicated periods, live interactions with entrepreneurs, and initiatives like Business Blasters, which provide students with seed funding for real-world business projects. Aligned with NEP 2020, EMC integrates 21st-century skills, interdisciplinary education, and vocational training to prepare students as job creators rather than job seekers. Supported by systematic teacher training and school-level coordinators, EMC aims to address youth unemployment, promote self-sufficiency, and empower students with the entrepreneurial mindset needed for a dynamic, future-ready India.

This study explores the perceptions of teachers and learners towards the Entrepreneurship Mindset Curriculum and its implementation in Delhi schoolsusing a **self-developed Questionnaire for EMC teachers and an Attitude scale for students**.Data was collected from 200 students and 100 teachers teaching EMC by a convenient sampling technique.**Focus Group discussion and percentage method used to analyse data**. Responses from teachers revealed positive changes in the academic climate, including enhanced student confidence, creativity and critical thinking. Teachers highlighted the role of mindfulness activities in improving students' stress management, self-awareness, and focus, while reflective discussions and student specials promoted effective communication and engagement. Lifelong skills such as leadership, risk-taking and planning were identified as key outcomes of EMC. Teachers recognized its relevance in fostering real-world competencies like collaboration, problem-solving, and business acumen. While EMC's integration into daily timetables has impacted teacher workload, most manage it effectively. Overall, the findings emphasize EMC's potential to prepare students for future success, despite challenges in resource availability.An attitude scale assessing student perceptions of mindfulness activities, entrepreneurial mindset development, and career exploration revealed positive outcomes. The majority of the students agreed that mindfulness check-ins and check-outs fostered calmness and awareness and most felt regular mindfulness practice improved present-moment focus. A significant majority found mindfulness exercises and reflective discussions on entrepreneurial

stories relevant to creativity and skill development. Group activities and role-playing were perceived to enhance collaboration, self-confidence, and communication skills. Peer feedback, live sessions with entrepreneurs and career exploration interactions boosted confidence, networkingand real-world understanding. The Business Blaster project was widely appreciated for fostering teamwork, critical thinking, problem-solving and creative project development with funding acting as a strong motivator. While a small percentage expressed uncertainty or disagreement of the effectiveness of these initiatives in holistic skill and mindset development.

Keywords: Entrepreneurship Mindset Curriculum(EMC),NEP-2020,Buisness blaster

Innovation and Indian Education System: Role in Global Development

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Abstract

The topic "Innovation and Indian Education System: Role in Global Development" analyzes the technological, structural and pedagogical changes taking place in the Indian education system, which are helpful in promoting global development. The Indian education system has been dedicated to innovation since its historical perspective. From the ancient Gurukul model to the current digital age, the system has been adopting various dimensions of innovation. The National Education Policy (NEP) 2020 has provided a new energy in this direction, which focuses on providing practical, technological and task-based education to the students. In terms of technological advancement, innovations such as e-learning platforms, Artificial Intelligence (AI), and Virtual Reality (MR) have empowered the Indian education system on the global platform. These technological solutions facilitate access to education in rural and remote areas. Smart classrooms, online courses, and digital learning resources have not only improved the level of education but also made it more inclusive and accessible. Innovations in teacher training and management systems have also enhanced the quality of teaching. Modern teaching methods, such as interactive learning and personalized learning, have prepared students for global competition. Additionally, Indian universities and institutions have made significant contributions in the research and development (R&D) sector. India's startup culture and innovation-based industries have further strengthened the role of Indian education in global development. However, there are some challenges in implementing innovations in the Indian education system. Problems such as digital divide, economic inequality, and lack of resources impede this process. Coordinated efforts are needed by policymakers and educational institutions to overcome these obstacles. Thus, innovation in the Indian education system not only prepares students to meet global standards but also contributes to the overall development of the global society. This system not only encourages technological advancement but also maintains ethical and cultural values.

Keywords: Innovation, Indian Education System, National Education Policy 2020, Global Development, E-learning, Research and Development, Inclusive Education.

Energy Consumption Forecasting in Smart Cities Using Machine Learning Techniques

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Abstract

In this paper, we focus on the application of machine learning (ML) techniques for energy consumption prediction within smart cities. Machine learning is an advanced method of forecasting energy demand accurately by taking in diverse data-past consumption of energy from the same region, climate-based statistics, economic factors, etc. For this purpose models such as Random Forest, XGBoost and Long Short-Term Memory (LSTM) networks are implemented to predict future demands. This model can outperform traditional prediction approaches and will provide meaningful information to assist in more effective energy distribution among cities. By implementing established metrics for model evaluation, we highlight some benefits of the use of machine learning in energy management for smart cities.Urbanization and demand for sustainable energy sources are being challenged towards fast-tracking the smart technologies adoption in city energy management. Energy demand forecasting is essential for efficient management of consumption because, in smart cities, it assists utility providers with optimizing distribution and minimizing energy wastage whilst ensuring grid reliability. The rural dataset contains a kind of data with simple linear and strong correlations. In this case, the power of the ARIMA model will be enormous; however, for urban datasets traditional techniques like Exponential Smoothing and/or ARIMA may prove to be inadequate due to their propensity of not being able to capture complex non-linear relationships as well as interactions. We belabor a new pay for injurious demand forecasting using machine learning, with the implementation of heterogeneous data sets encapsulating ancient energy records, weather patterns and socio-economic indicators.

Keywords: Energy consumption forecasting, Smart cities, Hybrid deep learning, LSTM, GRU, Time-series analysis

Empowering Students as Leaders: A Global Perspective

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Abstract

This theoretical research paper delves into the critical role of student empowerment in fostering global leadership. It examines the multifaceted nature of leadership and the essential qualities that define effective leaders. The paper highlights the significance of cultivating leadership skills at the college level, where students are poised to transition into influential roles in society. A key focus of the research is on the potential of simulated conditions to create immersive learning environments that challenge students to apply leadership principles in real-world scenarios. By engaging in simulations, students can develop critical thinking, problem-solving, and decision-making abilities, all of which are vital for effective leadership. Furthermore, the paper proposes a framework for assessing the development of leadership qualities in students. By establishing the specific parameters and utilizing appropriate technique, institutions can monitor progress and ensure that students are acquiring the necessary skills to become successful leaders. The ultimate goal of this research is to provide a comprehensive understanding of the factors that contribute to student leadership development and to offer practical strategies for empowering students to become catalysts for positive change. By investing in the leadership potential of young people, we can cultivate a generation of global citizens who are equipped to address the complex challenges of the 21st century.

Keywords: leadership development, student empowerment, global perspective, simulated conditions, leadership qualities.

Empowering Teenagers through Connection, Empathy, and Holistic Support

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Abstract

Education is not merely the transfer of knowledge but the crafting of human potential. In India, where the education system is celebrated for its depth and rigor, an essential aspect is often overlooked—the emotional and holistic development of teenagers. This paper seeks to bridge that gap, presenting a vision of an education system that nurtures the heart as much as the mind, preparing students not just for exams but for life.

Drawing on 18 years of immersive experience in Jawahar Navodaya Vidyalayas (JNVs) and grounded in the teachings of renowned educational psychologists like Haim Ginott, Lev Vygotsky, and Carl Rogers, this research highlights the transformative power of connection and empathy in education. It also examines global trends and proposes actionable frameworks that blend the richness of Indian values with modern educational paradigms.

The paper argues that India, with its cultural heritage of nurturing the whole individual, can redefine education—not only to meet global standards but also to lead the world in holistic, student-centered approaches.

Holistic Digital Inclusion for Multiple SDGs in India: A Review

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Abstract

The digital divide in India poses a significant barrier to the nation's progress toward achieving multiple Sustainable Development Goals (SDGs). This review paper investigates the multifaceted relationship between digital inclusion and key SDGs, particularly SDG 4 (Quality Education), SDG 3 (Good Health and Well-being), and SDG 5 (Gender Equality). By examining global and Indian-specific studies, we identify critical challenges hindering digital inclusion, including infrastructure deficits, affordability issues, digital literacy gaps, and policy implementation weaknesses. Through detailed case studies—such as the utilization of digital platforms like DIKSHA and telemedicine services like eSanjeevani, the Internet Saathi initiative empowering rural women, and e-commerce platforms aiding small businesses—we demonstrate how digital access can catalyze progress across multiple sectors. Building on these insights, we propose an integrative framework that emphasizes multi-stakeholder collaboration, sustainable infrastructure development, targeted digital literacy programs, and policy alignment with the SDGs. The paper concludes that bridging the digital divide is not merely a technological necessity but a fundamental requirement for inclusive and sustainable development in India. Implementing a holistic digital inclusion strategy will accelerate SDG achievement and ensure that no one is left behind in the country's digital transformation journey.

Keywords: Digital Divide, Digital Inclusion, Sustainable Development Goals (SDGs), Multi-Stakeholder Collaboration

Teachers' perception towards nature and extent of bullying in schools

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Abstract

Objectives: To identify the nature and extent of bullying in school children. **Design:**PRAQ-R (Peer Relations Assessment Questionnaire) for teachers Rigby (2010) was used to find out what teachers thought about the issue of bullying or harassment at their school. **Setting:** Six schools were selected from Hisardistrict of Haryana State and permission was obtained from school authorities to conduct the research with children. **Subjects:** All the school teachers teaching children of 6th to 10th classes participated in the research study. Total sample constituted of 40 teachers. List of Secondary and Senior Secondary schools of Hisar district was procured from District Education Office, Hisar and from this list six schools were randomly selected. **Results:** Majority of teachers (82.50%) reported that sexual harassment and deliberate exclusion (67.50%) were rarely or never observed in schools, 42.50 per cent mentioned name-calling occurs occasionally, equal percentage of teachers mentioned that physical bullying (52.50%) and cruel teasing (52.50%) was fairly often seen in schools. Majority of teachers (90.00%) mentioned that bullying rarely occurs in classroom, quite often occurs at recess (80.00%) and on way to home from school (90.00%). **Conclusion:** It can be concluded on basis of findings that about half of the teachers mentioned that name-calling is observed rarely or never, while more than forty per cent mentioned it occasionally. More than fifty per cent teacher indicated that physical bullying and cruel teasing is fairly often seen in schools.

Key words: Bullying, Teacher, nature and extent.

Leveraging Hybrid Quantum-Classical Neural Networks for MNIST Binary Image Classification

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Abstract

Image classification is an essential task in deep learning, and recent developments in quantum computing have sparked considerable interest in quantum neural networks. Convolutional Neural Networks (CNNs) are usually used for visual feature extraction, while Multilayer Perceptrons (MLPs) are responsible for decision-making. Parameterized quantum circuits have the capability to encapsulate intricate picture characteristics and delineate advanced decision limits. The present study introduces a novel Hybrid Quantum–Classical Neural Network (H-QNN) for image classification and demonstrates its efficacy using the MNIST dataset. Our methodology integrates quantum computing with conventional supervised learning to improve classification precision and computational efficiency. This work elucidates the architecture of the H-QNN, highlighting its proficiency in feature learning and image classification. Experimental findings indicate that the H-QNN model surpasses traditional deep learning techniques across many training settings, highlighting its efficacy in high-dimensional image categorization applications. Furthermore, we investigate the wider use of hybrid quantum-classical methodologies in many fields. Our research adds to the expanding literature on quantum machine learning and highlights the promise of quantum-enhanced models for image recognition and classification.

Keywords: Deep learning, Quantum computing, Quantum neural networks

Ensuring Data Integrity in Cloud-Based Digital Twin Healthcare Systems Using Blockchain

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Abstract

The integration of digital twin technology is poised to revolutionize cloud-based healthcare systems by creating precise virtual replicas of patients and medical services. These digital twins facilitate advanced diagnostics, monitoring, and predictive analytics, enhancing the delivery of medical care. Cloud service providers play a key role in bridging the physical and virtual medical worlds by offering outsourced storage, communication platforms, and reduced computational costs. However, safeguarding the integrity of both physical patient data and its digital twin stored in cloud environments remains a critical security challenge. To address this, we propose a blockchain assisted certificateless public auditing mechanism designed specifically for cloud-based digital twin healthcare networks. Blockchain enhances the security of the auditing process by maintaining logs of outsourced data and activities, while also enabling efficient batch auditing without the need for pairing operations. Our solution is provably secure, ensuring data integrity, privacy preservation, and public verifiability. Furthermore, the computational overhead is shown to be efficient when compared with existing approaches.

Keywords: Certificateless cryptosystem, public data auditing, Cloud computing, Blockchain, Digital twin.

Comparative Analysis of Machine Learning Algorithms for Different Real-World Application Domains

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Abstract

The current and developing environment of The Fourth Industrial Revolution in which distinct technologies and trends such as the Internet of Things (IoT), robotics, virtual reality (VR) and artificial intelligence (AI) are changing the way modern people live and work by intelligently analysing the data and developing the corresponding smart and automated applications using the knowledge of artificial intelligence (AI), particularly, machine learning (ML). Almost all fields of study have adopted and benefit from the diverse machine learning algorithms such as supervised, unsupervised, semi-supervised, and reinforcement learning etc implementation. The challenge is to define which algorithm is best suited to solve a given problem. In this paper the principles of different machine learning techniques along with characteristics of datasets are studied and their applicability in various real-world application domains is explained.

Keywords: Artificial Intelligence, Virtual Reality, Machine Learning.

The Theory of Peace propounded by Shri Krishna in Bhagavad Gita

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Abstract

The Mahabharata, one of the world's greatest epics, is known for its eighteen-day war and the thousands of people who had to pay their lives in that war also propounds the theory of peace. Shri Krishna, who provokes Arjuna to fight in the battle through his teachings, later which is known as Shri Bhagavad Gita. The same also provides us with a theory of peace, inner peace, and self-realization. It also teaches us how to achieve peace in our inner and outer worlds. The present research paper will try to bridge the gap between the statements given by Shri Krishna and Arjuna. The study will find the gap in the teachings of Shri Krishna, who is incited to fight in battle and also gives the knowledge of peace one can attain. The present study will show the path shown by Krishna to achieve the balance between inner and outer peace because outer peace cannot be achieved without inner peace.

Keywords: War, Peace, Self-realization.

Empowering Students as Leaders: A Global Perspective

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Abstract

This theoretical research paper delves into the critical role of student empowerment in fostering global leadership. It examines the multifaceted nature of leadership and the essential qualities that define effective leaders. The paper highlights the significance of cultivating leadership skills at the college level, where students are poised to transition into influential roles in society. A key focus of the research is on the potential of simulated conditions to create immersive learning environments that challenge students to apply leadership principles in real-world scenarios. By engaging in simulations, students can develop critical thinking, problem-solving, and decision-making abilities, all of which are vital for effective leadership. Furthermore, the paper proposes a framework for assessing the development of leadership qualities in students. By establishing the specific parameters and utilizing appropriate technique, institutions can monitor progress and ensure that students are acquiring the necessary skills to become successful leaders. The ultimate goal of this research is to provide a comprehensive understanding of the factors that contribute to student leadership development and to offer practical strategies for empowering students to become catalysts for positive change. By investing in the leadership potential of young people, we can cultivate a generation of global citizens who are equipped to address the complex challenges of the 21st century.

Keywords: leadership development, student empowerment, global perspective, simulated conditions, leadership qualities.

School with A unique scientific Approach and Emphasis on Indian Values

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Abstract

1.Sanskar Kendra:As per the guideline of Vidya Bharti our school is running SANSKAR KENDRA IN SLUM AREAS for the children who are deprived from education from last 18 years. In city as well as in village*(Dobh village). 2.ATL Achievements Best practice of A.T.L innovation mission in Shiksha Bharti Vidyalaya Ramnagar Rohtak the project of Atal mission started in 2019 in 2020 has been started As startup of channels of LED lights for Diwali decoration by the students of Shiksha Bharti Vidyalaya also Vanshika Manchanda got first position in Niti Aayog for her project make in India gain in India almost 2500 LED decoration light has been solved by the students of Shiksha Bharti Vidyalaya student grab position in engineering Day celebrated in MDU University and Brought Laurel to the school by getting first position by class 8 student Aman in in 2023 in National Science Congress at district level our student got selected in both student and senior level with a topic of robotic and food spolling detector 3.Blood Donation (ALUMINI,s) We always encouraging our ALUMINI's to organize blood donation camp in the sweet memories of our late martyerd Deepak Sharma we organize 5 Blood donation camp till 2023. 4.Cleanliness and wellness (Cleaning with Meaning) We focused on promoting cleanliness, hygiene, and sanitation. increasing public awareness about the importance of cleanliness and hygiene of society. By Running campaign. 5.Help In Blind School Principal , Teachers & Students help blind students in donating Books,as well as we can teach students life skills like cooking, cleaning, and using public transportation.these students are also helping in ATL for creation diwali lights & Earthen Pots. 6.Empowerment of Women We help women Education: Providing quality education for girls and women. Health and Well-being: Access to healthcare, reproductive health services, and nutrition. Social Protection: Implementing social safety nets to protect vulnerable women. Famous Actress Ms. Meghna Malik visited our school during" Matri Sammelan" to motivate girls 7.Regards for Warrior We show our respect for warrior. Paramveer chakra Awarde Yogendra Yadav visited our school to motivate the students. Also we have shown our regards 21 Martyer families of rohtak city. 8.Helping Stray Animals We help Feeding and Watering: Regularly provide fresh water and food to the strays in your area. Shelter: Create temporary shelters during extreme weather conditions using cardboard boxes, blankets, or other materials. Veterinary Care: If you notice an injured or sick animal, contact a local animal shelter or a veterinarian for help. Support local organizations that provide low-cost or free spay/neuter services to control the population of stray animals. 9.OUR CONTRIBUTION TO STATE & NATION OUR SCHOOL GIVE 2 LAKHS IN PM Kosh 5 LAKHS IN CM Kosh during Covid time. 10.NCC & NSS OUR SCHOOL IS RUNNING NCC & NSS FROM LAST 5 YEARS Got acheviment by bagging prizes in different activities.

भारतीय ज्ञान परम्परा में लोक कल्याण

Dr.Shailender singh

सारांश

'सर्वे भवन्तु सुखिनः' के पवित्र भाव पर आधारित भारतीय ज्ञान परम्परा अनादि काल से विश्व कल्याण के लिए कार्य कर रही है । वेद, उपनिषद्, रामायण, महाभारत, पुराण, स्मृति ग्रंथ, दर्शन, काव्य नाटक इत्यादि में उपलब्ध ज्ञान राशि सार्वभौमिक और सार्वकालिक है । भारतीय ज्ञान की इस पवित्र धारा ने संसार में व्याप्त अज्ञान और अंधकार को समाप्त कर लोककल्याण के मार्ग को प्रदर्शित किया । भारतीय चिन्तन इस जड़ जगत् में चेतन को सिद्ध करता है । आपो देवता, अग्निर्देवता, वातो देवता, इस प्रकार पंच महाभूतों के आधार पर निर्मित यह सम्पूर्ण सृष्टि देवत्व के भाव से परिपूर्ण है । इतना हि नहीं 'ब्रह्म सत्यं जगत् मिथ्या' इस वाक्य से भारतीय चिन्तन की पराकाष्ठा सिद्ध होती है।

ऋषि–मुनियों के चिन्तन से विकसित हुई इस ज्ञान परम्परा में पग–पग पर लोक कल्याण समाहित है । प्रकृति ने हमें जीवन जीने के लिए प्राणवायु, जल, अग्नि, आकाश, भूमि, पेड़–पौधे, नदियां झरनें, अन्न, फल–फूल इत्यादि उपहार प्रदान किए । हमारी ज्ञान परम्परा ने प्रकृति प्रदत्त इन उपहारों के संरक्षण के लिए अनेक त्योहार और पर्व बनाकर इसे हमारी संस्कृति का महत्त्वपूर्ण अंग बनाया । आज हमारे देश में प्रत्येक नदी, पर्वत, जंगल, ऋतु से सम्बन्धित अनेक उत्सव मनाए जाते हैं । भारतीय ज्ञान में प्रकृति को माता माना गया है, 'माताभूमिः पुत्रोऽहं पृथिव्याः' अथर्ववेदः आज पूरा विश्व भीषण युद्ध और पर्यावरण समस्याओं से चिन्तित है । परन्तु ईशावास्योपनिषद् का यह मंत्र संसार को त्याग के मार्ग पर चलने का उपदेश देता है।

ईशावास्यमिदं सर्वं यत् किञ्च जगत्यां जगत् ।
तेन त्यक्तेन भुञ्जीथाः मा गृधः कस्यस्विद् धनम् ।।

Digital Overload and Adolescent Cognition: A Psychodynamic Approach to Learning Difficulties

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Abstract

Adolescents face mounting challenges in adapting to the rapid evolution of educational modalities, a difficulty exacerbated by excessive internet use. This study investigates the prevalence and impact of internet-induced learning difficulties in adolescents aged 12–18 through a novel mixed-method approach grounded in psychodynamic theory. While diagnostic frameworks such as DSM-5 and ICD-10 were initially evaluated, the study adopted the PDM2 framework due to its holistic assessment of psychological functioning across three axes: mental functioning (MA), personality patterns (PA), and symptomatic distress (SA). A webbased Likert scale quiz was developed to assess these axes, and the results were analyzed through descriptive statistical methods. The findings reveal alarming trends, with adolescents who reported internet usage exceeding six hours per day exhibiting significant cognitive impairment and emotional dysregulation. Their learning difficulty scores averaged 80.87, correlating strongly with heightened symptomatic distress (mean Axis SA score: 73.42) and diminished mental functioning (mean Axis MA score: 44.45). These results align with existing literature on the detrimental effects of prolonged internet exposure on attention, emotional stability, and academic performance, emphasizing the interplay of environmental and psychological factors. Reverse causation and confounding variables were meticulously analyzed to ensure the robustness of these findings. The methodology was validated through a structured questionnaire reviewed by mental health professionals, who provided positive feedback on its reliability and relevance. These findings underscore the urgent need to address internet-induced learning difficulties through integrative interventions. The study concludes by proposing the development of a cyberpsychology-based application utilizing the psychodynamic framework for implementation in professional education.

Keywords: Adolescents, Internet Usage, Learning Difficulties, PDM-2, Cyberpsychology.

Review on Enhancing the Performance of SnO_2-based Gas sensors for low temperature operations: Materials, Doping and Mechanism

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Abstract

The evolution of metal oxide semiconductor gas sensors, with a particular focus on tin oxide (SnO_2)-based materials, and their applications in various gas detection fields has been reviewed. The development of gas sensing technologies began in the year 1962 when it was discovered that the absorption and desorption of gases on metal oxide surfaces significantly affected conductivity, leading to the use of zinc oxide thin films as an early example. Since then, advancements in sensor technology have led to a wide variety of sensing materials, fabrication methods, and enhanced performance characteristics. Key developments include the use of doped SnO2 films, modifications through plasma treatments, and the introduction of catalysts such as palladium (Pd) and gold (Au) to improve sensitivity and selectivity. Various studies have focused on optimizing sensor sensitivity, response times, and operational temperatures, with specific attention to applications in automotive exhaust systems, hydrogen detection, and volatile organic compound (VOC) analysis. Furthermore, research has explored the effect of materials like copper oxide (CuO), iron (Fe) doping, and the integration of multiple metal oxides in enhancing sensor performance. Despite the extensive development, challenges remain regarding cross-sensitivity to other gases, response time, and stability under varying environmental conditions. This review highlights the ongoing innovations in sensor materials, fabrication methods, and sensor characterization techniques that continue to shape the future of gas sensing technology.

Keywords: Metal oxide, Gas sensor, Selectivity, Thin film, Sensitivity, SnO_2 gas sensor

UNIVERSAL DESIGN FOR LEARNING (UDL) AS PRACTICE FOR INCLUSIVE CLASSROOMS FOR STUDENTS WITH INTELLECTUAL DISABILITIES

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Abstract

UDL is an educational approach that aims to provide all students with equal opportunities to succeed. This method offers flexibility in how students access materials, engage with the content, and demonstrate their knowledge. As part of a broader movement to create a more accessible and usable world for everyone, including those with disabilities. When adopting a UDL approach, teachers create flexible learning experiences to meet the needs of individual learners. They prepare the learning environment with adaptable methods, materials, and strategies, allowing them to better address the needs of every student. UDL offers all students the opportunity to access, participate in, and progress within the general education curriculum by reducing barriers to instruction. The present study explores the application of UDL to design lessons that effectively accommodate the variability of learners in inclusive classrooms. Teachers play a crucial role in guiding learners through the integration of UDL principles, which emphasize providing flexible options and support to ensure that lessons aligned with academic standards are accessible to a diverse range of students in their classrooms. This article outlines a method for teachers to create lesson plans based on academic standards. By unpacking these standards and integrating UDL into the planning process, educators can establish precise objectives that align with academic standards. They can then devise adaptable teaching methods, assessments, and materials tailored to meet the diverse needs and preferences of all students. This approach supports both general educators and special educators in crafting inclusive lesson plans that cater to the learning requirements of every student, including those with disabilities.

Keywords: flexibility, aligned, assessment, crafting, accommodate.

EFFECTIVE CLASSROOM MANAGEMENT PRACTICES UNDER INCLUSIVE EDUCATION

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Abstract

Classroom management begins even before school or teaching-learning starts for students. There are widespread notions about the nature and characteristics of teaching. It is a broader term that aims to change the behavior of a learner. Teachers should develop a learning attitude among students by creating a positive learning environment. The present study aims to highlight the approaches and significance of classroom management for the meaningful inclusion of children with disabilities under an inclusive education system. Different research papers based on effective classroom practices have been critically reviewed to select effective strategies. It has been observed that multifaceted factors have remained responsible for the ineffectiveness of inclusive education in schools. Apart from foundational strategies, specific strategies are effective in dealing with the diverse learning needs of students. How teachers design and organize the physical environment in a classroom, plays an important role in determining how students will respond, learn, and relate to one another and the teacher. In the 21st century, classrooms have become inclusive, and teachers must create an environment reinforcing learning. As the core component of inclusive education, restructuring the classroom enables all children to learn even those with exceptionalities. It is more than how teachers control students in their classes. Someone walks through the corridor of school and peeks into the classroom it is not only that students are silently doing their assignments, and worksheets, listening to the teacher's directives. In various research based on effective classroom management, it is proclaimed that better classroom management leads to improved learning outcomes.

Keywords: Notions, Significance, Reinforcing, Restructuring, Proclaimed.

Analyzing Bibliometrics and Themes in the Progression of Climate Change Mitigation Research

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Abstract

Climate change poses a global threat that is affecting various sectors. Particularly, vulnerability of the agricultural industry is a major concern as changing weather patterns jeopardize food production and supplies. This has implications for global food distribution especially in countries where agriculture plays a vital role in the economy. Additionally, climate change is endangering the survival of species by disrupting their temperature habitats. The article offers an analysis of climate change mitigation research conducted between 1996 and 2024 focusing on issues and future directions. The study aims to identify emerging trends by examining publications, keywords, authors, institutions and countries using tools like Bibliometrix R Package, VOSviewer and SciMAT. The outcomes indicate that China and the United States are leading in terms of research output and citations during this period. This research contributes to an understanding of climate change for informed decision-making purposes.

Keywords: Climate Change Mitigation, Sustainable Technologies, Renewable energy, bibliometric analysis, thematic analysis.

Assessing Emotional Intelligence Among Law Students in Jabalpur: A Comprehensive Analysis

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Abstract

Human beings experience a wide range of positive and negative emotions, such as joy, happiness, love, passion, excitement, grief, anger, and disappointment. Emotions, therefore, play a crucial role in shaping human personality. Emotional Intelligence (hereafter EI) is the ability to recognize these emotions and use that knowledge to guide and understand our feelings, behaviours, and situations. In today's dynamic and globalized world, EI plays a significant role in every aspect of human life including workplace success, leadership, personal relationships, the healthcare sector, education, etc. All of us have various levels of EI to confront various emotional challenges and handle them effectively. This study explores the level of awareness of EI among law students and its importance in their lives. The research methods and techniques used to identify and analyze the problems were based on primary data, i.e., descriptive survey method, and secondary data sources, such as research papers, books, case studies, reports, and journals. The sample size of the study consisted of 120 1st and 2nd-year B.A. LL.B. (Hons.) students of DNLU, Jabalpur, M.P. The EI scale, known as Goleman's Competency Model, was used for data collection to measure the emotional and social competencies of the students. Statistical methods such as averages, percentages, and other calculations were used to analyze and quantify the data. The study aims to highlight the importance of EI in legal education and to suggest that it should be included in the curriculum to help students handle the emotional challenges they will face in their future careers.

Keywords: Emotional Intelligence (EI), Law Students, Goleman's Competency Model, Educational Systems.

Study of Factors Affecting Customers' Investment Decision in Term Insurance Plan

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Abstract

Purpose: Term insurance in India provides financial benefits to the beneficiary of policy holder's death during term period. As an investor during investment in term insurance having so many factor worked as determinant for investment and it is very crucial for insurance company to identify then that are playing as a major factor for investment. This paper is attempting to find out factors that affect the investment in Term Insurance plan.

Research Methodology: In the study primary data is collected through structured questionnaires based on five point Likert scale. And collected data is analysis by Applying factor analysis

Findings: The factor analysis is used to analyse the primary data of 237 respondents and found six factors significantly affects the investment decision of investors that are term insurance information, term insurance services, term insurance ethics and documents, term insurance benefits, term insurance assistance and term insurance cost.

Practical Implications: Insurance companies should consider these six factors when formulating their strategies to increase investments in term insurance. By addressing customers' needs and expectations related to information, services, ethics, benefits, assistance, and cost, insurance companies can provide quality services and ultimately increase customer satisfaction.

Originality: The study provides valuable insights into the factors influencing customers' investment decisions in Term Insurance plans. The results highlight how crucial it is to take into account these variables in order to grow customer acquisition and retention rates, increase investment rates, and guarantee client happiness in the insurance sector.

Keywords- Factor analysis, Financial sector, Investment decision, Risk, Term insurance

Let's Water the Roots: Engaging Mothers in Early Childhood Education

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Abstract

The current paper is concerned with understanding the transformative role of interventional programs such as workshops aimed at empowering mothers by further involving and enhancing mother's levels of participation in their children's early years education in the state of Punjab, India. The four workshops were implemented in 2022-23 after the start of pre-primary classes (K.G.) on 14th November, 2017, to bridge the gap between home and school and to equip mothers with practical tools, resources, and ideas aimed at supporting their children's foundational journey. The effectiveness of the workshops in developing parental involvement, encouraging home-based learning activities, and integrating child development-most significantly-handmade teaching materials, child psychology, and children's rights were evaluated by this through survey and feedback from both mothers and teachers. The results were highly significant ($n=250$), ($p<0.001$) and highlighted the importance of getting parents involved in early stages of learning, thereby, to some extent, displaying such schemes as superior than others for attaining a trust-based, collaborative culture between parents and the education sector.

Keywords: workshops, empowering mothers, child development, child psychology, collaborative culture

Optimization of Complete Awaiting Duration of Tasks with Concept of Task Block on Multi-Stage Flow Shop Scheduling

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Abstract

The paper analyzes the problem to reduce the complete awaiting duration of the task on multi-stage flow shop scheduling with the task block. The proposed algorithm is aimed to minimize the awaiting time of all the n tasks on multi-station using task block. The paper investigates the idea of an equivalent task for a task block, i.e. by considering two or more tasks together in one group as it becomes significant when one task takes priority over the another in order to improve the productivity or due to some scientific constraints or demand of the contract. When all the tasks run at the first station, they don't have to wait for their turn, so the waiting time here will be zero. But, when tasks are processed on the second station, they might have to wait for their turn due to many reasons and the same for the next stations. The sum of all awaiting period for processing at back-to-back stations is known as complete awaiting duration of all the n tasks on multi stations. The proposed procedure is illustrated with numerical examples.

Keywords: Awaiting Duration of Tasks, Utilization Period, Task Block.

Cross-Cultural Factors in Educational Contexts: Understanding Diversity, Promoting Inclusion, and Enhancing Learning Outcomes

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Abstract

As teachers and students from diverse cultural backgrounds come together in an increasingly interconnected global world, the field of education is growing rapidly. This chapter primarily focuses on the cross-cultural aspects that emerge in educational settings. It underscores the criticality of comprehending cultural diversity, fostering inclusiveness, and capitalising on cultural advantages. The evaluation examines how cultural differences affect teaching methods and policy development, classroom dynamics, and the acquisition of knowledge. This forms the basis for notions such as intercultural communication, multiculturalism, and competency. This chapter provides educators with specific strategies and guidance for effectively handling cross-cultural interactions, fostering inclusive learning environments, and cultivating strong intercultural relationships. By viewing the cultural diversity as an opportunity for progress, educational institutions may prioritise creating a supportive environment that enables students from all backgrounds to thrive and achieve academic & scholarly success.

Keywords: Cross cultural, Diversity, Inclusion, Education, Culture

Optimizing Public Healthcare: A Productivity Measurement and Monitoring Framework for Hospitals

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Abstract

In most of the developing countries, a significant portion of the population relies on public infrastructure for their healthcare needs. To ensure the continued delivery of high-quality services, it is crucial to assess and monitor the productivity of public healthcare systems. In response to this need, the authors have developed a simple yet effective methodology for evaluating the productivity of public sector hospitals. This methodology was tested in a district-level civil hospital in India, with the results being used to analyze and improve key factors such as hospital efficiency, effectiveness, cleanliness, and employee satisfaction. Furthermore, the paper proposes a system for continuous monitoring and comparative analysis across public hospitals, aiming to foster ongoing improvements in service delivery. The details of the methodology, its implementation, and the findings are discussed in this paper.

Enhanced Dispersion of Exfoliated Carbon Fibers in Aluminum Matrix for Al/C Nanocomposites

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Abstract

The primary challenge in fabricating carbon fiber-reinforced aluminum matrix nanocomposites lies in achieving a uniform dispersion of carbon fibers, which is crucial for their effectiveness as thermal management materials in aerospace applications. This study introduces a novel method to obtain fine dispersion of carbon fibers within aluminum powder through a straight forward mechanical exfoliation process. The carbon fibers were first exfoliated mechanically, then combined with fine aluminum powder via wet ball milling. This process resulted in a well-dispersed fiber network, without the need for dispersing agents. Optical microscopy and scanning electron microscopy (SEM) analyses of both the pre-compaction mixture and the hot-pressed composite showed excellent distribution of fibers within the aluminum matrix. X-ray diffraction (XRD) results confirmed the development of a high-quality crystalline structure. Furthermore, Williamson-Hall plots revealed a decrease in strain and particle size with increasing carbon fiber content in the nanocomposites. The microhardness (Vickers hardness number, VHN) of the C/Al composites was significantly influenced by the carbon fiber content, with the highest value of 55.3 VHN observed for the C/Al-5 sample. The study also discusses how the dispersed carbon fibers contribute to the enhancement of the nanocomposites' mechanical properties, underlining their potential in advancing metal matrix composites for diverse functional applications.

Development of Durable Coatings for Corrosion Protection in High-Speed, Oxygen-Rich Atmospheres

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Abstract

The primary goal of this study is to develop and evaluate a coating suitable for high-speed, oxygen-rich environments, capable of withstanding challenging conditions. The coating was applied to an alloy substrate by spraying a ball-milled slurry of metal-ceramic powders, followed by drying and baking. The performance of the coating was assessed through various techniques, including visual inspection, boroscopic analysis, scanning electron microscopy (SEM), X-ray diffraction (XRD), tape adhesion test, and thermal cycling tests (30 cycles each at low temperature, using liquid nitrogen, and high temperature at 900°C). Visual and boroscopic inspections confirmed the coating was free from defects, while microscopic analysis indicated that the grains were evenly deposited and distributed across the surface. XRD results showed the formation of barium aluminate and cerium borate, derived from the multiple ceramics in the coating. The coating exhibited an adhesion strength greater than 35 MPa. Both thermal cycling and heat flux tests, as well as assessments at visual, microscopic, and mechanical levels, showed no significant changes in the coating. However, the high-temperature thermal cycling test did lead to the formation of nickel oxide. Additionally, failure during the adhesion test occurred on the adhesive side, with the observed strength reflecting the adhesive bond rather than the coating itself, suggesting the actual

adhesion strength of the corrosion-resistant coating could be higher.

Integrating Artificial Intelligence in Materials Research: Opportunities and Challenges

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Abstract

Artificial Intelligence (AI), once primarily confined to software and computational applications, has now broadened its influence across various industries, including healthcare, defense, and automotive sectors. One of the emerging areas where AI can significantly impact is materials research. Traditional methods in materials research often rely on a trial-and-error approach, based on theoretical assumptions, which is time-consuming, resource-intensive, and costly. These limitations hinder the rapid discovery and development of innovative materials. This paper explores the potential of AI in transforming materials research by optimizing material discovery processes, reducing experimental costs, and improving the overall efficiency of research. AI techniques can enhance predictive models, automate data analysis, and optimize the design and testing of new materials, thereby increasing the probability of success and accelerating the development of novel materials for industrial applications.