PROCEEDING OF INTERNATIONAL CONFERENCE 2024



INTERNATIONAL CONFERENCE 2024 11th – 12th December 2024



Co-organized by







ScienceLeagues

Publisher: World Academics (WA)

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Editorial

We are delighted to extend a warm welcome to all participants attending the International Conference 2024 on 11th - 12th December 2024. This conference provides a vital platform for researchers, students, academicians, and industry professionals from all over the world to share their latest research results and development activities in multidisciplinary fields. It offers delegates an opportunity to exchange new ideas and experiences, establish business or research relationships, and explore global collaborations.

The proceedings for International Conference 2024 contain the most up-to-date, comprehensive, and globally relevant knowledge across various disciplines. All submitted papers underwent rigorous peer-reviewing by 2-4 expert referees, and the papers included in these proceedings were selected for their quality and relevance to the conference. We are confident that these proceedings will not only provide readers with a broad overview of the latest research results but also serve as a valuable summary and reference for further studies.

We are grateful for the support of many universities and research institutes, whose contributions were vital to the success of this conference. We extend our sincerest gratitude and highest respect to the professors who played an important role in the review process, providing valuable feedback and suggestions to authors to improve their work. We also appreciate the efforts of the technical program committee, reviewers, and authors for their dedication.

Since October 2024, the Organizing Committee has received more than 45 manuscript papers, covering various aspects of multidisciplinary research. After review, approximately 24 papers were selected for inclusion in the proceedings of International Conference 2024.

We thank all participants for their significant contribution to the success of the conference. Our gratitude extends to the keynote speakers, individual speakers, technical program committee, reviewers, and the organizing committee for their efforts in making this conference a reality.

Acknowledgement

The International Conference 2024, was successfully held in 11th - 12th December 2024. We extend our heartfelt gratitude to our colleagues, staff, professors, reviewers, and members of the organizing committee for their unwavering support in making this conference a success.

We would also like to thank all the participants who traveled far and wide to attend this conference and those who attended the event virtually, making it a truly global event. This conference provided a platform for students, professionals, researchers, and scientists to share their latest research and developments in various disciplines.

The aim of the conference was to promote research and development activities and to encourage scientific information exchange between researchers, developers, professionals, students, and practitioners from all around the world. Once again, we thank everyone who contributed to making this conference a resounding success.

Dr. Jennilrani Mithra Director World Academics (WA)

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Factors Influencing Customer Brand Engagement Through Online Media and its Impact on Brand Loyalty

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Abstract:

A great interest in the concept of customer engagement has emerged along with the rise of online social media during the past few years. Marketing practitioners were the first ones attempting to define and understand the potential outcomes of customer engagement.

However, due to a lack of scholarly interest and empirical support, the nature of customer engagement has remained rather vague and its presupposed capability to enhance customer relationships still uncertain. The aim of this study is to bridge this gap by proposing a conceptual model of customer brand engagement in the context of online social media platforms and conducting an empirical analysis. Drawing on the overview of academic literature and the results of a quantitative online consumer study, the paper delivers a thorough investigation of the concept and offers empirical evidence of its impact on the ultimate business performance. The most important findings of this study suggest that both customer brand relationship related factors and online social media platform related factors can influence the level of customer engagement, which in turn will influence the level of behavioral loyalty and the spread of word-of-mouth communication. Thus, this paper is an important contribution to academic marketing literature in the field of customer engagement, which still remains mostly conceptual or qualitative, and provides useful managerial insights for marketing practitioners.

Where Intersections are Imperative: Advancement Structures in Higher Education Institutions in South Africa

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Abstract:

Advancement structures in HEIs in SA include fundraising and development, alumni relations, marketing and communications and related functions. Their mission thus includes the sourcing of resources for sustainability. However, there are variations on a theme, influenced by several factors: the historical standing of the institution and its type, understanding of advancement, and the resources available to effect its mission, amongst others. One key aspect is its outward-facing focus, as stakeholders are external, from the private sector, industry, partner organisations and community (ngos), making for a cross-cutting thrust to attain results that advance the institution. It is in this arena that intersections are in fact imperative, as experience shows that collaboration achieves more. The factors which impede progress and those which give advancement traction, are therefore the crux of the matter. This paper expands on the nature of the intersections referred to, as well as the challenges faced, with reference to the experience of Mangosuthu University of Technology.

A Novel Instructional Design Model for Developmental Researchers and Instructional Design Practitioners in Pattern Construction Open Education

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Abstract:

Traditional pattern construction education, heavily reliant on apprenticeships that provide technical skills through on-the-job training, is becoming inefficient and unsustainable. This is particularly apparent with the rapid emergence of novel pattern construction technologies and approaches that require continuous reskilling and upskilling of professionals and academics with outdated skill sets.

Open educational resources (OERs) present an efficient and sustainable alternative to address these limitations and diffuse novel pattern construction technologies and approaches. However, establishing effective OERs requires a customised instructional design model (IDM) aligned with the field's specific theories and learning requirements. Such a model is currently lacking, hindering the field's transition to a theory-based learning approach customised to its unique practices.

Keywords:

Instructional design model, open education, pattern construction.

QSAR Models for Predicting Biological Activities of Chemical Compounds: An Ensemble Stacking Approach

Azar Shamloo

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Abstract:

Quantitative structure-activity relationship (QSAR) modeling links the structural, chemical and physical properties of compounds with their biological activities, aiming to establish a reliable statistical model for predicting the biological activities of new compounds. QSAR models often suffer from inconsistencies due to biases and variances in individual models; thus, we applied ensemble-based machine learning to address this limitation. In this study, we developed two models including ensemble stacking classification and regression. A comparative analysis with individual models across 40 diverse target genes spanning 7 protein families from the PubChem and Kyoto Encyclopedia of Genes and Genomes (KEGG) databas demonstrated notable improvements, with the ensemble stacking classification method achieving robust accuracy above 0.83. Additionally, when combined with a regression model, our stacking approach yielded a coefficient of determination (R²) exceeding 0.74, highlighting the effectiveness of ensemble techniques in enhancing prediction accuracy and reliability. The log-log plot of predicted versus actual biological activity values in various random seeds for each compound which regulate the 40 target genes clearly shows that the majority of predictions from the stacking regression algorithm fall within the 75% to 95% confidence intervals.

Keywords:

Omnichannel retailing, customer experience, customer journey.

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Urban Transport Planning in Constantine City Under Sustainable Development Policies

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Abstract:

The world has been seeking for centuries to create cities that achieve sustainable development due to their economic, health and high quality of service delivery. Public transport is one of the parties that achieve sustainable development in the city, and as stated in Agenda 21 adopted by the Baltic States in 1992, the most important requirements for sustainable development of the transport system lie in managing sustainable land, developing energy systems, in addition to creating a healthy environment in the city. The transport-oriented development policy TOD is also one of the most important techniques that achieve sustainable urban development Algeria has shown its interest in the environment since the seventies by forming the National Environment Committee CNE in 1974, followed by the formation of the Ministry of Environment and several institutions and legislations, including the National Action Plan for the Environment and Sustainable Development PNAE-DD in 2001. Our paper aims to analyze the reality of transportation in the city of Constantine and to determine the signs of its submission to sustainable development stipulated by the world with the help of the Visum program in implementing the modeling. The importance of our research lies in revealing the delay witnessed by the city of Constantine compared to the cities of the world in creating urban transportation that achieves sustainable development, and thus it can contribute to creating realistic policies that facilitate the achievement of a sustainable city.

Keywords:

Sustainable development, urban transport, city, Constantine, urban environmental pollution, sustainable transport.

Efficiency and its Determinants in the Islamic Banking Sector: Two-Stage Analysis

11th - 12th December – 2024

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Abstract:

This study investigates the determinants of efficiency in Islamic banks across Morocco, Bahrain, and Qatar using a two-stage analytical approach. The first stage involves calculating efficiency scores through Data Envelopment Analysis (DEA) focusing on technical efficiency, pure technical efficiency, and scale efficiency. in the second stage, Tobit regression is applied to assess how various internal and external factors impact these efficiency scores. Key variables examined include the liquidity ratio, solvency ratio, banking capitalization, credit risk, and inflation.

In the case of Morocco, findings reveal that bank size, liquidity, and ROA have a positive and significant impact on efficiency, while banking capitalization and inflation demonstrate a negative impact. For Bahrain, liquidity, ROE, and solvency risk show a positive but statically insignificant effect on efficiency; however, inflation is the only variable with a negative and significant impact. In Qatar, bank size, ROE, banking capitalization, and inflation exhibit a positive but non-significant influence whereas liquidity and credit risk negatively affect efficiency. Solvency risk is positive and significant in Qatar, while ROA shows a negative yet non-significant effect.

Research of Enzymatic Modification of Soy Protein Isolate

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Abstract:

The diversity of biologically active peptides is provided largely by protein hydrolysates. Fermentation of food proteins to obtain biopeptides using proteolytic microorganisms offers promising advantages - bioactivity and bioavailability of fermented bioactive peptides.

The aim of this study was to study the enzymatic modification of soy protein isolate. Soy isolate with a crude protein content of 90% was used as a vegetable protein for fermentation. For enzymatic hydrolysis, the enzyme preparations ENZECO® Bromelain Concentrate (sample No. 1) and ENZECO® FICIN 50K (sample No. 2) from Enzyme Development Corporation were used.

Soy protein hydrolysis was carried out by adding 0.2% of the enzyme preparation to the dry matter weight of soy protein for 30 minutes at a temperature of 55°C.

The processed product was dried in a spray dryer, sieved, and organoleptic (color, taste, smell) and physicochemical parameters (moisture, viscosity, pH) were determined. The samples obtained during hydrolysis had a moisture content of 5.6% and 6%, the crude protein content in sample No. 1 was 94% and in sample No. 2 - 93%. The samples of fermented soy isolate met the requirements of sanitary and hygienic standards in terms of microbiological parameters and the content of toxic elements. The proposed technology of fermented soy isolate is new for the Republic of Kazakhstan. This is the first study on the production of fermented soy isolate.

AI-Assisted Translation, Meeting and Customer Service Approach: Interactive Reply Assistance

11th - 12th December – 2024

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Abstract:

The use of artificial intelligence technologies in both business and daily life is increasing day by day. With the help of machine learning-based algorithms, instant language translations (in the original tone of voice and lip synchronization) and 24/7 customer service have become more feasible. This can eliminate traditional customer service delays, initiate instant responses, translate into any language and deliver all this seamlessly. In this study, an artificial intelligence assistant that serves in three phases is developed. In the first phase, the assistant prepares online meeting notes as executive summaries. In the second stage, these notes are translated into the desired language as audio and video in a tone and lip synchronized manner. In the last stage, the ASR (Automatic Speech Recognition) model is used to recognize the sentences, requests and questions of the customers during the conversation phase.

Keywords:

Machine learning; customer service; language translation; meeting assistant; artifical intelligence.

An Integrated Framework of Critical Metaphor Analysis and Multi-Level View with an Application to Metaphors for the Vietnam War

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Abstract:

Since Conceptual Metaphor Theory (Lakoff & Johnson, 1980) was introduced, methods of studying conceptual metaphor have kept improving to respond to methodological criticisms. Critical Metaphor Analysis (CMA) proposed by Charteris-Black (2004) has been considered as a "thought-provoking contribution" to metaphor analysis (Deignan, 2005) when approaching metaphor from discourse perspective and comprehensively interpreting metaphor from four aspects (semantic, cognitive, pragmatic, and critical). CMA is originally applied to one conceptual level in metaphor - domain. However, this paper argues that CMA can be exploited at four conceptual levels in Multi-level View of conceptual metaphor (Kövecses, 2017) - image schema, domain, frame, and mental space. The combined framework of Critical Metaphor Analysis - CMA (Jonathan Charteris-Black, 2004) and Multi-level View of conceptual metaphor - MLV (Kövecses, 2017) can gain deeper insights into ideologies motivating metaphorical concepts for the Vietnam war as well as elucidate the conceptual structure of metaphor via the four levels. Hence, this combination fills the gap of lacking a framework with optimal balance of semantic, pragmatic, cognitive and critical dimensions. It also features the intriguing relationship between ideologies and conceptual structure, i.e., ideologies are embedded in all the four conceptual levels and systematically develop with increasing specificity from image schema to domain, frame and mental space. The focus of this paper is on our argument for an integrated framework of conceptual metaphor and the newspaper articles written by American war correspondents during the Vietnam war are used for illustration of how the integrated framework can help us better understand the conceptual metaphors in the articles.

Keywords:

Conceptual Metaphor Theory, Critical Metaphor Analysis, Multi-level View of conceptual metaphor, the Vietnam War.

A Constraint to Authentic Learning of Mathematics in Katsina State Tertiary Institutions, Nigeria

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Abstract:

Learning would never be effective in an overcrowded class, is a situation whereby teachers are not convenient to teach, also students are not convenient to learn. This would no doubt have serious negative effect on the teachers and students' performances. It is against this background that this research was conducted. The research is survey in nature, Katsina State has five tertiary institutions. From each institution, results of six Mathematics courses were randomly selected making a total of thirty independent results for the research. The research question is, "what is the average teacher to students ratio in mathematics classes in Katsina State tertiary institutions?" this question was answered using descriptive analysis. Two null hypotheses were formulated and tested at 5% significance level using Pearson Product Moment Correlation statistic. Based on the analyses, conclusions and recommendations were made. Major findings of this research are, "teacher to students ratio in Mathematics classes in Katsina State tertiary institutions is far from ideal", "there is significant negative relationship between class-size and students' Mathematics performance in Katsina State tertiary institutions."

Keywords:

Authentic Learning, Constraint, Overcrowded class and Tertiary Institutions.

Challenges of Interreligious Relations in Georgia through the Prism of Interreligious Dialogue: Identification and Analysis of the Monomodel, Intermodel, and Multimodel

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Abstract:

In recent years, the role of religion in conflict resolution and peacebuilding has gained significant attention, especially amid globalization, which presents both challenges and opportunities for interreligious dialogue. The peaceful coexistence of religions is crucial, as it influences the personal and collective identities of conflicting parties. Georgia is a multicultural and multi-religious country. This study explores models of interreligious dialogue and cooperation among various religious groups in Georgia, emphasizing the importance of fostering intercultural dialogue.

Despite all religions advocating for peace, religious differences are often seen as obstacles to conflict resolution. This research identifies three models of interdependence between religions: the Monomodel, which recognizes a dominant religion; the Multimodel, which highlights the parallel existence of various groups with limited integration; and the Intermodel, which promotes active collaboration and shared values. The coexistence of these models reflects the social and religious diversity in Georgia.

In the last decade, interest in the role of religion in conflict resolution has grown. The study identifies how these interdependence models are represented in the discourses of secular and clerical figures in Georgia, employing sociological methods that include both quantitative and qualitative research to explore the attitudes of religious groups.

Our research conducted from 2020 to 2023 reveals that interreligious relations in Georgia are multifaceted and based on different models. The Monomodel emphasizes one dominant religion, the Multimodel showcases the parallel existence of diverse groups, and the Intermodel fosters collaboration and shared values. These three models coexist, but developing the Intermodel is essential for promoting peaceful coexistence, active cooperation, and principles of equality in Georgia.

Keywords:

Inter-religious Relations, Conflict Resolution, Post-Soviet Countries, Religious Conflicts, Religious Intolerance.

'I Would Like My Daughter to Live in a World Where Talking About Bipolar is Like Talking About a Broken Leg': Changing the Perception of Mental Health Diagnosis: The Video-Blogs of Happileeerin as a Case Study

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Abstract:

For several decades, mental-health diagnosis or the so-called "mental illness" has been a cause of stigma, negative attitudes and discrimination (cf. Goffman, 1990; Harper, 2005). Recently, research (cf. Balfour, 2019; Price, 2022) has turned attention to the role of mass media, including TV and the press, in creating recurrent negative stereotypes and views on mental health diagnosis (cf. O Hern, 2017 on bipolar disorder and Balfour, 2019, on the representation of schizophrenia). Despite the long-held negative views on mental health diagnosis, there is some evidence that the representation of mental health diagnosis in the public domain is undergoing change (cf. White 2020 on the representation of bipolar in graphic novels). The aim of this paper is to turn further attention to this recent change, exploring the videos of the video-blogger HappileeErin as a case study.

While exploring two video-blogs of HappileeErin from a critical perspective (see below), the paper will argue that HappileeErin subverts the representation of bipolar and mental health diagnosis in mass media (cf. O Hern 2017) in several respects, for example, representing mental health diagnosis as an illness that can be well-manged; presenting individuals with mental health diagnosis as 'normal' individuals with multi-faceted identities; and calling on individuals with mental health diagnosis to seek help, highlighting their agency, among other aspects. In addition, the analysis of a set of data of 100 comments will explore the commenters' response to her videos. It will show that v-blogging about mental health on YouTube has given a scope for users' expression of stance on mental health diagnosis, expression of solidarity, and an affiliation to a needed change of attitude towards mental health diagnosis. As such, the paper will throw light on a domain that is rarely examined, i.e., the agency of individuals in talking about their mental health diagnosis (cf. Jamet, and Coupé, 2023).

Methodologically speaking, the paper will draw on insights from a variety of approaches of Critical Discourse Studies, namely the Discourse Historical Approach (cf. Wodak, 2001), new literacy studies (Barton and Lee, 2013), and the Theory of Visual Grammar (Kress and van Leeuwen 2006), capturing the ways video-blogging about mental health diagnosis on YouTube has allowed for a change of attitude towards mental health diagnosis. Parameters that the paper will explore include HappileeErin's self-presentation, the use of multi-modality, nominalisation and argumentation strategies, among other categories.

Given the little attention to the representation of mental health diagnosis on social media, one contribution of the present paper is that it will strengthen a vein of research that seeks to explore communication about mental health online. Furthermore, it will present a framework for exploring the representation of mental health diagnosis on social media that can be extended to other case studies. The paper will be of interest to anyone interested in discourse analysis, health communication online as well as health practitioners and sociolinguists.

Myriophyllum Sibiricum Plant-Based Zinc Oxide Nanoparticles for Photocatalytic Reduction of Hexavalent Chromium

Dr. Opeyemi A. Oyewo

Postdoctoral Research Fellow, Department of Chemical and Materials Engineering, University of South Africa

Abstract:

The synthesis of Myriophyllum sibiricum plant-based Zinc oxide nanoparticles was investigated via co-precipitation, and they were found to be effective for reducing Cr(VI) ions in aqueous solution. Microscopy (TEM and SEM), FT-IR, and XRD investigations were used to evaluate the plant-mediated ZnO oxide nanoparticles. The results showed a clear relationship between metal ion reduction and catalyst dosage, with 1 g of ZnO nanoparticles are a promising photocatalyst capable of converting these metal ions into less hazardous compounds.

Technology-Based Approach Integration in Teaching Senior High School Subjects

Dr. Elma H. Ilagan

National University, Lipa, Batangas, Philippines

Abstract:

Objectives:

- 1. Determine the perception of Senior High School teachers in the use of technology-based approach in teaching Senior High School subjects.
- 2. Identify the effectiveness of technology based approach towards modular or distance learning.
- 3. Determine the impact of technology on learners engagement process into learning outcomes.
- 4. Identify challenges met by teachers and learners in adapting technology- based approaches.
- 5. Craft lesson plan exemplars aligned or utilizing with technology based approaches.

Design / Methodology / Approach:

The researcher employed mixed method in data gathering. Moreover, a descriptive research designed was utilized with the questionnaire serving as the primary data collection tool. Interviews were done from which the respondents provided deeper insights into the opportunities and challenges of using technology in education. The said interviews focused on how technology has changed instructional strategies and learning environments.

Findings:

A survey was conducted with Senior High School teachers to assess the level of technology integration and its impact on the teaching and learning process. Morever, the same set of surveyquestionnaire was administered to students to gathered data with regards to their experiences with technology in the classroom. In terms of teacher's perception of technology-based approaches in teaching, it shows that most teachers are aware of the benefits and positive outcome using the said approach. Also, most teachers feel confident learning new computer skills and they are able to use different technology-based learning strategies to find teaching materials and resources for better understanding of the learners. Lastly, the results revealed that while technology-based approaches are increasingly integrated into senior high school subjects, it offered a practical understanding of how digital tools are used in real-time and how students interact with these tools from which teaching and learning process took place.

Research Limitations / Implications:

The study was limited only with the responses of teachers from Senior High School of Fernando Air Base Integrated National High School for the 1st semester of the School-Year 2022-2023.

Originality / Value:

This study focused on the integration of technology-based approaches in teaching senior high school subjects and their impact on students' engagement, learning outcomes, and teaching strategies. The study emphasized the use of technology- based teaching and learning offering various interesting ways which includes educational videos and other social media platforms that will make the learning process more meaningful. It is holistic since it further investigates the use of technology-based approach in teaching and learning.

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Recommendations:

- 1. It is recommended to have a rigid training for teachers on the use of effective technology in the teaching and learning process.
- 2. Ensure that schools have the necessary computer laboratory room including internet access and devices, to support technology-based learning.
- 3. Provide hands-on activities among the learners to ensure that everybody has an equitable access to technology.
- 4. Design lesson plan exemplars utilizing the technology- based approaches.

Keywords:

Technology-Based Approach, ICT Integration, Senior High School subjects, teaching.

Wall-Following Control in Mobile Robots Using Sonar, FSM, and PID

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Abstract:

This work presents the use of a Finite State Machine (FSM) controller to manage the actions of a robot navigating a controlled indoor environment. The primary objective is to plan a secure and reliable path for wall-following tasks. We detail the Python-based implementation of the FSM controller and demonstrate how it enhances task precision. The experiment utilized the CoppeliaSim simulator, where we remotely controlled the Pioneer 3DX mobile robot's sensors and motors through Python API functions. The entire experiment took place in a simulated environment with barriers and enclosing walls, which were detected by a series of sensors. The robot successfully followed a predetermined path and adeptly navigated around the obstacles within this environment. Additionally, we conducted a comparative analysis with an alternative controller, the Proportional-Integrator-Derivative (PID) controller, to identify the most effective algorithm for this task.

Keywords:

Path Planning, Obstacle Avoidance, Pioneer 3DX, VREP, FSM, PID, Sonar sensors.

How Can Organizational Mindfulness Translate to Quality of Care?

Anat Drach-Zahavy

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Abstract:

Organizational mindfulness emerges as an important strategy to improve patient quality and safe care especially under emergency conditions and stress. This study explores the specific impact of organizational mindfulness on patient care within nursing in primary care settings, emphasizing the roles of treatment safety and nurse-patient communication. Unlike previous studies that broadly examine organizational mindfulness, this research focuses on the five distinct dimensions of mindfulness-preoccupation with failure, reluctance to simplify interpretations, sensitivity to operations, commitment to resilience, and deference to expertise—and their individual contributions to care quality. Using data from 114 nurses across 37 clinics, and observational data from 674 patient encounters, the study finds that treatment safety and communication quality benefit most in clinics with a strong commitment to resilience. Notably, higher resilience and a reduced focus on operational sensitivity were linked to better nurse-patient communication, while treatment safety improved with lower workloads and heightened resilience. Additionally, psychological safety was shown to moderate the relationships between mindfulness dimensions and treatment safety. These findings underscore the importance of tailoring mindfulness interventions to address specific challenges faced by nurses in primary care, suggesting that organizational efforts should focus on fostering resilience and psychological safety to enhance patient care.

Keywords:

Nurses, stress, resilience, organizational mindfulness, quality of care.

11th - 12th December - 2024

Training Teachers for Mathematics and Statistics Support in University

Associate Professor. Anthony Cronin

University for All Faculty Partner (Science), Maths Support Centre Managing Director School of Mathematics and Statistics, James Joyce Library, University College Dublin

Abstract:

In this talk I will present the notion of mathematics and statistics support as it pertains to university education. I will then discuss international evaluation of such support relative to student academic success e.g. course retention, grade improvement, confidence improvement etc.

Central to the work of a mathematics support provision is the staff recruited to run such an operation. I will outline the training programme for maths support tutors including an evidence base for best practice.

Teachers' Interpretation of School Administrators' Gestures

Dr. Darryl Hunter

University of Alberta, Canada

Abstract:

This paper describes work underway in Canada to develop a psychometrically sound instrument for measuring teacher candidates' responses to school principals' gestures when school principals are explaining statistical reports. Gesture studies have revealed at least five overlapping sources/ meanings for gestures: as cognitive expressions; as projections of emotion; as deliberate performances for an audience; as involuntary behaviours; as collateral expressions to speech. Video clips from a national study of school principals' statistical literacy will be played. Tescher candidates' focal points for interpreting gestures as forms of non-verbal communication will be identified. The implications for teacher training about the multiple facets of non-verbal communication will be explained. As well, the presentation presumes that statistics are best taught not as a subset of mathematics, but rather as the language of science.

The Application of Machine Learning Techniques as an Alternative to Economic Models for Exchange Rate Prediction

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Abstract:

This study addresses the Meese-Rogoff Puzzle by introducing the latest machine learning techniques as alternatives for exchange rate prediction. Using RMSE as a comparison metric, Meese and Rogoff found that economic models are unable to outperform the random walk model as predictors of exchange rates in the short term. Decades after this study, no statistical prediction technique has proven effective in overcoming this obstacle; even though there were positive results, they did not apply to all currencies and time periods. The recent advancement of artificial intelligence technologies has revolutionized exchange rate prediction methods.

Leveraging this technology, we applied five machine learning techniques aiming to overcome the Meese-Rogoff puzzle. We considered the daily period for the currencies of the Brazilian real, Japanese yen, British pound, euro, and Chinese yuan against the US dollar, over a time horizon from 2010 to 2023. Our results showed that none of the presented techniques managed to produce an RMSE lower than the Random Walk model; however, some of their performance, especially the LSTM and N-BEATS models, approached expectations, being superior to the ARIMA model. The results also suggest that machine learning models have unexplored potential, representing, in the long term, an effective possibility in the quest to surpass the Meese-Rogoff puzzle.

Keywords:

Exchange Rate, Machine Learning, Deep Learning.

"Do We Not Matter?": An Examination of Provincial Indigenous Educational Frameworks Within the Canadian Prairies

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Abstract:

In 2015, the Truth and Reconciliation Commission (TRC) released 94 Calls to Action, 16 of which targeted education. The goal of these 16 Calls to Action, was to address the attainment gap experienced by Indigenous youth and call upon all levels of government to eliminate the discrepancies found in areas such as educational funding and curricula. This study will examine the awareness and integration of the values and themes brought forward by the Calls to Action within educational institutions located in the Canadian Prairies. To do this, a thematic analysis will be completed on provincially implemented policies from Saskatchewan, Manitoba, and Alberta to evaluate whether there is a dedication to address the Calls to Action, and if there is, what form it is taking. Once provincial commitment is gauged, the research will present a secondary review and thematic analysis of past interview transcripts, observational studies, and surveys to understand how the prairie provinces are meeting and/or following the different requirements set out by the education policies, and to what degree. Through a critical examination of provincial policy compliance, this research seeks to contribute to the ongoing dialogue surrounding Indigenous rights, reconciliation, and the transformation of educational practices in Canada.

Knowledge and Attitudes of Adult Kuwaiti Women About the Prevention and Early Detection of Cervical Cancer: A Facility Based Cross-Sectional Study at Public Authority for Applied Education and Training in Kuwait

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Abstract:

Cervical cancer is a significant public health concern. The primary causative agent is human papillomavirus infection.

Objectives: to evaluate the knowledge and attitudes of Kuwaiti women regarding cervical cancer to effectively diminish morbidity and mortality rates associated with the disease.

Methods: A cross-sectional study was carried out between February 2024 and August 2024, involving 360 female employees at the Public Authority for Applied Education and Training in Kuwait. A structured questionnaire was utilized.

Results: 61% of the participants were above 30 years of age, and 52.5% were married. About 76.1% knows about cervical cancer screening through the Pap smear test; however, a significant 71.2% of married individuals have not participated in the examination. A total of 85.2% of respondents indicated that they had not received immunization against HPV. Regarding the evaluation of participants' perspectives on the importance of future screening, 66.2% showed agreement, in terms of future perspectives on immunization, 48.2% indicated a favorable viewpoint. Women over 30 years of age, married, with more than three children, and possessing a higher level of education demonstrated greater awareness and more favorable attitudes toward cervical cancer (P < 0.05).

Microbial Biodiversity and Their Functions Involved in the Efficient Degradation of COD in Potato Waste Water

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Abstract:

Food processing industries produce a lot of waste water during processing, resulting in the accumulation of high organic matter content in the form of COD, which is highly unsuitable to the environment and receiving water bodies when disposed off without treatment. This has called for the use of more ecofriendly methods in waste water treatment, of which microorganisms play a key role in biological waste water treatment. This study aimed at isolating microorganisms from sludge samples that were used in treating potato processing waste water and further using the isolates, in a fermentation process to ascertain their COD removal abilities. Potato processing waste water was prepared in the laboratory using potatoes that had been crushed with water in a blender to obtain the juice. The microorganisms were isolated using culture technique under anaerobic and aerobic conditions and were preliminarily identified through biochemical characterization and by PCR, using 16Sribosomal RNA sequencing. The microorganisms identified were made up both bacterial and fungal species including B. licheniformis, B. subtilis, B. haynesii, B. sonorensis, B. velezensis, Streptomyces echinatus, Pseudomonas fragi, Pseudomonas parafulva, Paenibacillus cookie strain, Cryptococcus sp, Saccharomyces sp, Candida sp, Aspergillus sp and Rhodotorula sp. Bacterial species were the dominant species making up 69% of isolates while fungal species made up 31%. 49% of the isolates belonged to the phylum Firmicutes which comprised all of the Bacillus species, making it the most dominant species. The second dominant phylum was Ascomycota which contained 18% of the isolates including Candida and Saccharomyces species. Phylum Proteobacteria (15%) was the third dominant phylum and was made up of two species; Pseudomonas parafulva and Pseudomonas fragi. Other phyla included Actinobacteria, Basidiomycetes and Basidiomycota respectively.

Single microbial species which were used in the fermentation process achieved COD removal efficiency of between 79.30% - 92.56% after 72 hours. Saccharomyces, Candida and B. licheniformis achieved 92.56%, 91.54% and 91.33% COD removal respectively. The highest recorded COD removal efficiency during the fermentation process was however achieved using three different microbial consortia made of only bacterial species, only fungal species and a mixed consortium of both fungal and bacterial species. The highest COD removal of 95.97% was achieved by the mixed consortium. This was followed by a 91.56% removal by the fungal consortium and an 88.95% removal by the bacterial consortium.

It can therefore be concluded from this study that the most effective way of COD removal is through a combination of different microorganism.

Keywords:

Microorganism, Bacterial, Fungal, Anaerobic, COD.

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Multicultural Tourism

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Abstract:

Multicultural tourism is a growing field that encourages travelers to experience and appreciate the cultural diversity present in various regions of the world. It involves visiting destinations known for their rich mix of traditions, languages, religions, and histories, offering tourists a chance to engage with different cultural practices and perspectives. This type of tourism not only broadens the horizons of travelers but also promotes cross-cultural understanding and respect. By participating in multicultural tourism, visitors often engage in activities such as attending cultural festivals, visiting historical landmarks, and tasting traditional cuisine. It provides economic benefits to local communities, as well as contributes to the preservation of cultural heritage. Furthermore, multicultural tourism fosters inclusivity and tolerance by highlighting the uniqueness and value of different cultures. However, it is essential for tourists to approach these experiences with sensitivity, ensuring that their interactions are respectful and that they contribute positively to the communities they visit. This balance is critical in maintaining the integrity and sustainability of multicultural tourism as a bridge for global understanding.

Relative Fat Mass (RFM) as an Indicator of Health-Related Fitness Level for Misurata's University Students

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Abstract:

Anatomical assessment is the cornerstone of assessing human nutrition for health care providers, clinical researchers, and epidemiologists. Likewise, the determination of fat-free mass, muscle mass, fat mass, bone quantity and quality are an ongoing subject of interest and study in the interdisciplinary fields of sports science. Some studies have shown that there are differences in the proportion of fats from one person to another and from one period to another and these differences are affected by many factors, including the genetic factor, the nature of food, the metabolic rate (BMR), physical activity and this exercise of sports training in normal cases. The primary results of anatomy research with physically active individuals were the characterization of body fat (fat%) by sport and gender. These reports emphasized the body fat % levels in adult athletes and mentioned them as the averages of a specific sport group and a set of values for women. Here lies the importance of the study to identify the components of the physical composition of the students at the University of Misurata and direct their attention and supervisors in planning activity programs at the university considering the components of physical composition Because of its importance in raising the level of physical fitness of students. And the study of anthropometric measurements and body composition indicators among the fourth-year students of the faculties of Misurata University, Therefore, seeks to use what modern science has reached in knowing the relationship of body fat mass as one of the best and easiest diagnostic indicators through which it is possible to know the physical characteristics of the students of the University of Misurata thus diagnosing the current situation and working on developing appropriate recommendations. This is what prompted to conduct this descriptive scientific study, which may be a scientific addition to the trainers and specialists responsible for activity at the university and the municipal sports council, and to benefit from its results to develop appropriate programs and raise the level of physical activity. This study aims to identify · Body composition and relative body fat mass as a diagnostic indicator for the physical characteristics of Misurata University students. Spreading health awareness for a large community (students at the University of Misurata) and making recommendations based on the results of the study for the participants and the concerned authorities Conclusions The RFM appears to demonstrate superior performance in measuring whole body fat quickly and accurately, with a low rate of obesity miscalculation. It is also more accurate than the current popular body mass index (BMI) obesity assessment tool. However, more longitudinal studies are needed in large populations that include subjects from all ethnic groups and from other countries to determine the range of body fat percentage that is normal or abnormal and associated with chronic diseases associated with obesity.

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Public awareness programs, including exercise and diet education, need to be widely disseminated to counter the increasing burden of obesity. Encouraging periodic measurements of physiological and functional adequacy. Reliance on the use of body composition analysis programs that rely on scientific foundations to develop physical and physiological capabilities. This study helps to spread awareness and knowledge of the sample members and their likes and researchers. This study helps in setting up a preliminary database for accurate research into the characteristics of sex and the nature of their sports practices. Emphasis on the use of modern devices, if any, in conducting physical or physical measurements and tests, and comparing them with simple practical tools.

Keywords:

Relative Fat Mass. indicator of health and related fitness level.