

**PROCEEDING OF
INTERNATIONAL CONFERENCE 2024**

HYBRID EVENT

**INTERNATIONAL CONFERENCE 2024
19th – 20th November 2024**

Organized By



Co-organized by



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Editorial

We are delighted to extend a warm welcome to all participants attending the International Conference 2024 on 19th - 20th November 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 September 2024, the Organizing Committee has received more than 50 manuscript papers, covering various aspects of multidisciplinary research. After review, approximately 22 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 19th - 20th November 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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Examining the Application of Gamification Across Different Age Groups: Insights from the “GeoGecko” Program

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Abstract:

The “GeoGecko” project stands as a groundbreaking effort in both technical and educational innovation, focusing on creating educational materials grounded in experiential learning principles with a strong gamification framework. Currently underway at Dunaujvaros University in Hungary, this article provides a detailed account of the project’s development, leveraging e-learning components to create an engaging and immersive online program specifically designed to meet the expectations and needs of today’s high school and university students. Beyond discussing these expectations, the article also addresses the program’s implementation and assesses its effectiveness. Special attention is given to the practical applicability of the teaching methods used, based on feedback from students of different generations.

Keywords:

Gamification, online education, digitalization, generations.

Congenital Perineal Groove: An Unusual Anorectal Anomaly in Females - Report of Two Cases and Literature Review

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Abstract:

Congenital perineal groove (CPG) is a rare anorectal anomaly; only 65 cases have been reported in literature. Two cases who were referred for evaluation of a lesion in the perineum are reported here. The patients were diagnosed clinically as CPG in neonatal period and were initially managed conservatively. Surgery was required in one case as the lesion was persistent and symptomatic. A high index of suspicion is required for diagnosis of CPG to avoid parental anxiety and unnecessary diagnostic workup and surgery. Surgery is required only in cases where the lesion persists or there is infection, pain, and ulceration.

Keywords:

Anorectal malformations, Perineal cleft, Perineal groove.

Internet of Things (IoT) for Home Automation Development to Assist the Disabled in Kenya

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Abstract:

In the Kenyan context, advancement of Internet of things (IoT) into the home automation proposes a noble chance to improve the lives of people with disabled through their homes. Hence, IoT is tallying with the present global phenomena of Artificial Intelligence (AI) and smart technologies for coming up with unique mechanisms of making the environment supportive and accommodating for people. This proposal aims at regarding the use of IoT to design and create home automation system that would be relevant for disabled persons in Kenya using the comparison from the National Disability Insurance Scheme [NDIS] in Australia.

Implementation of IoT Home Automation in Kenya:

The implementation of IoT for home automation involves several key components:

- **Smart Devices and Sensors:** Introducing of smart sensors and devices for home automation that would enable disabled people navigate through a home safely and comfortably.
- **AI Integration:** Leaning on Artificial Intelligence algorithms for guess and interventional demands of users which would improve the capability of IoT systems.
- **Connectivity and Data Management:** Effective connectivity and credible data management so there is no interruption, rampant monitoring is also an important factor.

Milestones:

Significant milestones in the development of IoT home automation for the disabled in Kenya include:

- **Pilot Projects:** Launching of pilot implementations for the IoT solutions both in urban and rural areas to determine the fit and efficiency of the methods.
- **Training and Awareness Programs:** Still, another is offering training to caregivers and users to optimise the experience of using IoT technologies.
- **Collaboration with Stakeholders:** For the integration and expansion of IoT solutions, It has established cooperation with government's institutions, Non-Governmental organizations and IT companies.

Challenges:

The adoption of IoT for home automation in Kenya faces several challenges:

- **Infrastructure Limitations:** The internet connection and power supply challenges faced especially in developing parts of the world.
- **Cost and Accessibility:** Some of the issues that users of the IoT devices are facing include high costs of these devices, and low access by the less fortunate income earners.

- Privacy and Security Concerns: Case analysis of how to address threats to user data privacy and security in IoT systems.

Collaboration and Future Directions:

This paper therefore struck a balance between IoT key focuses and proposed international collaboration with local organizations/firms. Referring to the development of technology-based support system for the disabled in Australia known as NDIS, the Kenya can also implement the similar support system to enable and encourage the usage of IoT.

Roadmap to Success:

Policy Advocacy: Education for positive changes to support and encourage the implementation of IoTs in home automation for the disabled.

Public-Private Partnerships: Encourage the government, the private sector, and civil society to enhance this cooperation and to find ways how to increase innovation and investment.

Continuous Improvement: Lastly, it is important to note that IoT systems should be updated cyclically with reference to experiences obtained from users' feedback as well as with advancements in technology.

Data-Driven Digital Marketing Strategies for Global Tourism: A Framework for Growth

Omar Alzahrani

Global Digital Marketing & Social Media in Saudi Tourism

Abstract:

The tourism industry is at a pivotal point where digital marketing strategies play a crucial role in driving visitor engagement and increasing international tourism. This paper outlines the development and implementation of data-driven digital marketing strategies for global tourism. It focuses on the segmentation of key markets, the creation of tailored content pillars, and the execution of multi-channel campaigns aimed at increasing brand awareness, engagement, and conversion. By analyzing real-world market clusters and leveraging key marketing tactics, this paper provides a comprehensive framework for tourism stakeholders to boost their digital efforts and succeed in a competitive global tourism landscape.

Analyzing the Impact of Corporate Social Responsibility on Brand Management for Start-Ups: Quantitative Research from Cyprus Businesses

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Abstract:

In recent years, many businesses have adopted corporate social responsibility (CSR) to positively influence their macro and micro environment while building their competitive muscles. Many start-ups avoid adopting CSR, pointing to its high cost and invisible, short-term gains. As a result, this study aimed to establish the impact of CSR adoption on brand management. As a broad topic, the research focused on the five primary components of brand management: brand reputation, equity, loyalty, awareness, and recognition. The quantitative research narrowed down to test five hypotheses that sought to determine whether the adoption of CSR by start-ups positively affects brand reputation, equity, loyalty, awareness, and recognition. In completing the research, 228 participants (employees and customers) from 100 sampled Cyprus start-ups participated in answering closed-ended 30-item questionnaires categorized into six main items (CSR, brand reputation, equity, loyalty, awareness, and recognition), each of the five items. Cronbach's alpha and Average Variance Extracted (AVE) were adopted as the primary tools to test the Reliability and validity of the test. The results indicated all five hypothesizes passed the confirmatory factor analysis (CFA) with the brand reputation as the most vigorous intensity ($\beta = 0.501$, $t = 11.088$ at $p = 0.000$) and brand recognition with the lowest intensity ($\beta = 0.247$, $t = 4.3856$ and $p = 0.000$ for $p < 0.001$). These results confirmed that the adoption of CSR had a positive impact on brand reputation, equity, awareness, and recognition. The research concluded that CSR significantly impacted brand management, which is crucial for start-ups.

Technical Education in Madrasah Schools in Southwestern Nigeria: Issues, Challenges and a Way Forward

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Abstract:

This article draws its significance from filling the gap of insufficient knowledge of the problems the Muslim educational system is facing, not only in Nigeria but all over the world. Hence, the purpose of this article is to identify the experience of madrasahs, Muslim educational system in Southwestern part of Nigeria. Its reflection, critical analysis and possible extrapolating will contribute to further improvement of the system of Islamic education.

A leading approach to solving this problem is the author's concept of historical and pedagogical research, which was based on the logic and structure of pedagogical process in its modern sense. This paper will enable the madrasah to enjoy several benefits such as recognition of the curriculum, better management of schools, funding and affiliation from relevant bodies. The paper can be useful to teachers – the teachers of not only religious but also secular educational institutions, historians and culture experts.

A Review of Holistic School Education: Perspectives from India and Abroad

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Abstract:

Education is crucial for the economic growth and sustainable development of nations based on the principles of equity and social justice. Education is the process of human learning through which knowledge is conveyed, faculties are cultivated, and diverse skills are nurtured. Education has moved beyond the confines of mere transmission and acquiring of knowledge of different subjects in the curriculum. Holistic education seeks to cultivate the minds of learners and inculcate desirable humanistic values in them. Holistic education addresses the physical, intellectual, emotional, creative, social and spiritual aspects of personality to help in the complete development of learners. Holistic education aims at equipping learners with the knowledge and life skills needed to face the challenges and obstacles encountered in the turbulent contemporary world we inhabit.

Out of the seventeen Sustainable Development Goals (SDGs) set by the United Nations for peace, prosperity and welfare of all the people of the world, the fourth SDG is 'Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all'. The National Education Policy, 2020 visualises Indian education being harmonised with the goals of modern education, including those in SDG 4. Many schools in India and abroad understand the need for holistic education that engages children constructively and educates them holistically. These schools are making conscious efforts to impart holistic education. In this paper, the researchers review holistic education imparted in different schools in India and abroad to understand the status of holistic education in the current times.

Keywords:

Holistic education, lifelong learning, holistic development.

AI-Driven Design of Lattice Structures for Enhanced Endoprosthesis Performance

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Abstract:

Open-pore lattice structures offer versatile design possibilities for various applications including arthroplasty, where they have demonstrated the potential to enhance bone ingrowth. However, the vast range of geometric configurations and customization options complicates the selection of the optimal lattice structures. This study introduces an AI-supported design workflow for generating lattice structures to enhance the performance of endoprostheses manufactured from Ti-6Al-4V. The AI-driven approach allows for the customizability of endoprostheses and is expected to promote bone ingrowth and natural load distribution between bone and prosthesis. Initially, a comprehensive database is established, comprising a variety of unit cell structures including those inspired by aquatic plankton organisms such as diatoms and Radiolaria. From these, regular, uniform, open-pore lattices are generated. The design parameters including unit cell selection, material thickness, and cell orientation are fully customizable, allowing the adaptation of the generated lattice to meet the functional requirements of endoprostheses. This flexibility enables structural optimizations in terms of the weight of a patient, bone porosity, mechanical strength, and manufacturability. Using advanced algorithms and neural networks, the AI analyzes a database of over 40,000 configurations to recommend optimal lattice designs based on user-defined inputs. This tool streamlines the design process by aiding in the selection of appropriate lattice configurations for endoprostheses, resulting in highly optimized structures.

Keywords:

Deep learning, Optimization, Healthcare, Hip Implant, Lightweight design.

Beauty Tech LED Mask Integration: KANO-TOPSIS Driven Analysis of Twelve AI Models for Advanced Skin Disease Classification

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Abstract:

This study proposes a novel approach to enhance the functionality of AI-based intelligent LED mask products, aiming to increase consumer acceptance in the beauty device market. By employing a market-pull analysis methodology, we identify the functional requirements preferred by consumers for LED masks while simultaneously exploring improvements through the integration of AI technology. Specifically, we utilize an integrated analytical approach that combines the KANO model and the TOPSIS model to evaluate the quality elements prioritized by consumers and to derive a ranking based on the importance of each function. The results reveal that consumers place the highest emphasis on features such as skin condition analysis, personalized user experience, and display functionality.

Consequently, We propose key features necessary for the successful adoption of intelligent LED masks in the beauty device market, particularly emphasizing the inclusion of a skin cancer diagnostic feature. This addition could facilitate entry into the medical sector and enhance the product's innovative potential. To better understand consumer preferences, we conducted an empirical analysis using the HAM10000 dataset, training and evaluating twelve models: Xception, ResNet50, ResNet50V2, ConvNeXtTiny, ConvNeXtSmall, ConvNeXtBase, EfficientNetV2S, EfficientNetV2M, EfficientNetV2L, InceptionV3, MobileNet, and MobileNetV2. Among these, EfficientNetV2S stood out as the highest performer, achieving an impressive accuracy of 91.45%.

Our proposed methodology involves integrating these advanced AI capabilities into the LED mask. This study not only emphasizes the potential for LED masks to be recognized as innovative devices with strong acceptance in both beauty and medical markets, but it also underscores the essential role of AI-driven skin cancer diagnostic features in fostering this acceptance. Ultimately, our findings advocate for the strategic incorporation of features that align with consumer needs, ensuring the successful market integration of intelligent LED masks.

Keywords:

Beauty tech, HAM 10000, KANO Model Analysis, LED Mask, TOPSIS Model Analysis.

The Impact of Social Media Usage and Learning from Social Networking Sites Have On Academic Performance of Senior Secondary School Students

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Abstract:

Social media are means of interaction among people in which they create, share, exchange and comment among themselves in different networks; and its adoption for learning activities in secondary school comes along with numerous benefits. However, social media are alleged to divert the students' attention as they do their academic work. Hence, valuable time that could have been spent for profitable academic activities are now been wasted on social platforms by a vast majority of students. Consequently, there is deviation, distraction and divided attention between use of social media and students' learning activities, due to the fact that students devote more attention to social media than they do to their studies; thereby, making academic performance of students to suffer neglect and challenges. Hence, the study examined impact of social media usage on academic performance of senior secondary school students in Agege, Education District I of Lagos State. And in order to achieve the objectives of the study, six research questions were raised respectively and two hypotheses were postulated and tested in the study at 0.05 level of significance. Also, the study adopted survey research design; and the study sample comprised of 180 SSS2 students comprising of 90 boys and 90 girls. Questionnaire was used to gather data for the study and the data obtained were analysed with the use of frequency counts, percentage and Pearson's Product Moment correlation. However, from data analysed, the study revealed that there is significant relationship between frequency of social media usage and academic performance of students; and that significant relationship exists between learning from social media sites related to students' studies and their academic performance. Therefore, there should be establishment of standards for social media use which will include behaviour and attitude guidelines similar to those enforced in the classroom; and that students should maintain discipline as to the use of social media platforms for learning from sites related to students' studies in order to forestall abuse which may affect the academic performance of students.

Fiber-Reinforced Polymer as External Reinforcement for Concrete Beams: An Experimental Study

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Abstract:

This paper presents an experimental investigation of Reinforced Concrete (RC) beams with external flexural-shear strengthening using different combinations of externally bonded hybrid fabrics reinforced polymer composite: Carbon and Glass fabric reinforced polymer composite (CFRP and GFRP), which are widely used and another fabric reinforced polymer composite based on vegetable fibre it is the jute fibre (JFRP). The vegetable fibres offer promising prospects thanks to their attractive, specific properties, because of their low density, but also with their biodeterioration. This study's objective is to conjugate the properties of each type of fibre fabric to increase the load capacity, rigidity and ductility of RC beams and obtain a typical reinforcement beam model that provides the three desired mechanical properties (Strength, stiffness and ductility). A control beam and nine beams strengthened in flexure with GFRP, CFRP, JFRP and hybrid fibre fabrics were conducted. The RC beams were tested under three-point bending to study the flexural effectiveness of the proposed hybrid fabrics. The load-deflection response, rigidity, ductility and associated failure modes of the tested specimens had been recorded and analyzed.

Keywords:

Hybrid FRP, composites materials, rigidity, ductility, load-deflexion, jute fiber.

Exploring the Multiple Drivers and Operational Innovations of Pet Exhibition Services: Evidence from fsQCA and Interviews

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Abstract:

This study contributes to employ quantitative analysis and qualitative interviews to explore the evolution of smart technology and optimize smart products at pet exhibitions. The quantitative analysis focuses on investigating sufficient conditions for pet owners attending pet exhibitions and the application of AI smart products. The qualitative interviews explores operational innovations in pet exhibitions through business model analysis. The research uses a questionnaire survey method, collecting quantitative data from pet owners who have participated in pet exhibitions via Google Forms. Additionally, interviews has be conducted with key stakeholders, including pet exhibition organizers, exhibitors, and consumers who have attended these exhibitions, to gather qualitative data. Multivariate analysis emphasizes descriptive statistical analysis and fsQCA. Results of fsQCA represent that there are 14 and 13 sufficient conditions for both pet owners attending pet exhibitions and the application of AI smart products, respectively. Furthermore, results of qualitative analysis identify business model innovations in pet exhibitions from perspectives including enterprise, value, customer, and financial dimensions.

Keywords:

AI Smart Technology, Pet Exhibitions, fsQCA.

Unique Case of Bilateral Foot Drop

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Abstract:

Vasculitis, as multisystem disease, presents significant diagnostic challenges for physicians; however, it often responds well to treatment once accurately diagnosed.

We present a case of 65-year-old male farmer with a medical history of bronchial asthma, bronchiectasis, hiatus hernia, depression, and degenerative disc disease presented with progressive bilateral ankle drop. The onset occurred eight weeks prior following a fall due to transient right leg weakness and inability to dorsiflex the big toe. Over subsequent weeks, he developed paraesthesia over the dorsum and sole of the right foot, leading to right foot drop, and later experienced a similar episode in the left leg, resulting in left foot drop. His condition progressed, ultimately confining him to a wheelchair two weeks before admission. Medications included carbocisteine, fluoxetine, diazepam, montelukast, pregabalin, and inhalers.

Physical examination revealed scattered petechial and purpuric rashes on the medial thighs and dorsum of the right foot. Neurological examination showed intact cranial nerves, absent ankle dorsiflexion, and big toe extension bilaterally, with right plantar flexion strength of 0/5 and left side 1-2/5. Knee reflexes were brisk; however, ankle and plantar reflexes were absent. Sensory loss to fine touch was noted in the L5 and S1 dermatomes bilaterally.

Investigations demonstrated marked eosinophilia (13.74), and MRI brain suggested an acute lacunar infarct of embolic aetiology. MRI spine revealed multilevel degenerative changes. Extensive testing, including; Thyroid function test, CSF viral PCR, autoimmune and vasculitis profiles, hepatitis and HIV serology, and paraneoplastic markers (Purkinje cell antibodies (anti Hu, anti Yo) and anti-MAG antibodies), compliments C4 and Cryoglobulin level were negative. Chest CT showed bibasilar consolidation and mild pleural effusion.

Electromyography and nerve conduction studies were consistent with mononeuritis multiplex. Skin biopsy confirmed hyper-eosinophilic syndrome.

The patient responded well to a three-day high-dose intravenous methylprednisolone course followed by cyclophosphamide. He was also treated with antibiotics for possible bilateral pneumonia.

Diagnosis: Eosinophilic Granulomatosis with Polyangiitis (Churg-Strauss Syndrome).

Dermoscopy of Nails Involvement in Autoimmune Bullous Diseases: A Case-Control Study

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Abstract:

Background: Autoimmune bullous disorders can affect the skin, mucous membranes and nails. Dermoscopic nail changes in autoimmune bullous disorders either with clinically affected or subclinically affected nails have not been demonstrated up to date.

Aim: To study occurrence and percentage of dermoscopic nail changes in various autoimmune bullous disorders.

Materials and Methods: One hundred participants were recruited in this study. Half of them (fifty patients) had different autoimmune bullous diseases and were grouped according to their nail affection into two groups, group 1: Patients with clinically affected nails, and group 2: Patients with clinically apparent normal nails (with subclinical changes). All parts of finger nails were examined by dermoscopy and were compared with fifty age and sex matched healthy volunteers.

Results: Dermoscopic nail changes were observed in 88% of patients with autoimmune bullous diseases and 44% of controls. In group 1: The most frequent dermoscopic findings were onychorrhexis 52%, splinter hemorrhage 40% and onychomadesis 40% while in group 2: 24% had no dermoscopic findings, 48% had splinter hemorrhage and it was significantly higher than group 1 ($p < 0.001$), 28% had Beaus' lines, then onycholysis and onychomycosis 24% for each. In both groups, onychomycosis and longitudinal striations were significantly higher in those ≥ 50 years. While, in group1 only, Beau's lines and onychorrhexis were higher in those ≥ 50 years old. Also, splinter hemorrhage and periungual blister were significantly higher among those with disease duration less than 1 year in both groups.

Conclusion: Signs of clinical and subclinical involvement of nails in autoimmune bullous diseases can be appreciated well with the help of the dermoscope even in clinically unaffected nails. Splinter hemorrhage, onycholysis, onychomycosis and Beaus' lines were dermoscopic signs detected in clinically free nails so appropriate dermoscopic nail examination in patients with Autoimmune Blistering Diseases (AIBD) is mandatory to detect early nail changes where treatment should be instituted to prevent permanent damage of nails.

Keywords:

Dermoscopy, Autoimmune bullous diseases, Nail, Pemphigoid, Pemphigus.

Dermoscopy in Vitiligo: An Activity Assessment Tool?

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Abstract:

Vitiligo is the most frequent cause of depigmentation worldwide. It is a clinical diagnosis. Disease activity is a key parameter to consider when indicating treatment. Assessing vitiligo activity was longtime based on clinical evaluation and Wood lamp. Recently, dermoscopy is considered an adjunct tool, not only to exclude other clinically simulating hypopigmentary conditions, but also to assess disease activity [1]. The aim of our study is to investigate the dermoscopic features of vitiligo at different stages of disease activity.

Combination Therapy for Acne Scars

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Dr. Hamifard Clinic

Abstract:

Introduction: This method is a kind of combined therapy that can use for acne scars treatment.

In this technique I have used subcision - collagen stimulator filler-peeling - non cross linked HA mesotherapy - home used topical creams.

Due to this combined therapy the treatment has been done in two layers : 1-deep dermis 2-superficial epidermis.

Subcision: Minor surgical procedure that used for treating depressed cutaneous scars.

Collagen stimulator filler: This type of filler contain PLLA (poly-L-lactic acid) that is bio-stimulator & can rejuvenate & volumizing the skin.

Peeling: Use some special materials to peeled off the superficial epidermis.

Non cross linked HA mesotherapy: that use for acceleration of repairing process

Topical Creams: including sunscreen – repairing cream- AHA cream- moisturizing cream .

Material: At first we should exam the face carefully till determine the type & shape of scars so then planned the treatment.

The best strategy for this combined therapy is that at first we do subcision with collagen stimulator filler then during 3 month we do peeling with TCA (20% -40%) one time every month.

During this 3 month we can use non cross linked HA for acceleration of repairing process.

As you know topical creams can help us to protect from treated skin & prevent from PIH.

After 3 month we evaluate our case & then decide for next 3 month period if she/he needed

In my experience this period can be repeated for 4 times till achieved the best results.

Results: During 3 years I have used this combined therapy for about 300 cases & I have achieved wonderful results versus lasers & other techniques.

I have experienced that for acne scar treatment we need combined therapy & single therapy can not satisfy our cases.

During this therapy we need our patients accompany, so that will be happen if we explain the therapy process completely at first session.

Conclusion: This method is the best method for acne scars treatment due to combined therapy & two layers therapy (deep dermis – superficial epidermis) simultaneously.

This is very important that we can heal the acne scars from deep to superficial & this raise our results.

As you know there are many cases that during single therapy the healing process has been stopped so the best solution is combined therapy & this strategy that I have experienced is the best due to using several methods & two layers therapy simultaneously.

Keywords:

Acne scar, combination therapy, peeling, subcision, collagen stimulator filler, Non cross linked HA.

Temperature Dependent Thermal Diffusivity and Selected Magnetic Properties of Iron-Silicon Electrical Steels with Various Silicon Contents

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Abstract:

In electric vehicles, some high-frequency electrical devices with non-oriented electrical steels as the core material are used. Although the addition of Si reduces core losses, it also leads to a reduction in thermal diffusivity, which hinders heat transfer from core to the environment reducing the efficiency of the magnetic material. The thermal diffusivity of Fe-Si alloys with a silicon content of 0-11.8 wt% was investigated in the temperature range of 173K-773K in the as-cast state and after a one-hour heat treatment at 1073K. As the silicon content increases, the thermal diffusivity decreases. With rising temperature, the thermal diffusivity first increases, reaches a maximum between 373K and 474K depending on the silicon content, and then decreases. The polarization dependent power losses related to saturation magnetization of the Fe-Si alloys are increasing with polarization and decreasing with silicon content. The heat treatment leads to a weak decrease of the power losses of all investigated Fe-Si alloys. A decrease of low induction losses after heat treatment indicate a higher domain wall mobility, while increased high induction losses due to rotation of the magnetic moments and domain wall annihilation at high magnetization fields reveals an increased number of grains oriented in the magnetically hard direction.

Comparison of Cooling Methods to Achieve the Desired Surface Quality and To Improve the Tool Life in Turning Operations by Using the Taguchi Method

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Abstract:

Machine tools are associated with features such as high cutting forces and high temperature. In the other hand, steels machining inherently causes a high temperature in the chipping area, so these factors affect the production quality to a large extent which in turn not only reduces the tool life, but it reduces the quality of final product and increases the production cost. The primary task of lubrication fluid in metals machining operation is to lubricate and cool the contact area between the workpiece-tool and the tool chip. In the present research, the turning operation was designed with different cooling methods including the dry, semi-dry, and emulsion methods. Experiments designed based on the orthogonal array of L9 from Taguchi method, to can evaluate and compare the fluid performance at different speeds of turning (355, 500, and 710m/min), different rates of feeding (0.8, 0.24, and 0.32mm/min) and different depts of cutting (0.5, 1.0 and 1.5mm). the obtained results imply that the contribution of machining parameters in improving the surface quality for dry, semi-dry, and emulsion machining environments is such that the advancing speed has the highest effect the cutting depth is in second place and the cutting speed has the least effect; in all cases, the error rate is less than 3.34%. The optimum surface quality obtained for dry, semi-dry, and emulsion modes according to Taguchi method and by given to the provided relationships was 1.41, 1.04, and 0.52mm, respectively.

Keywords:

Cutting parameters, cooling fluid, surface roughness, tool life.

The Development of Transversal Skills in an English for the Media Programme in Higher Education (HE)

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Abstract:

In today's globally interconnected 21st-century world, the European Union emphasizes the importance of education beyond traditional classroom settings, acknowledging rapid economic, educational, and technological advancements (UNESCO, 2020). Higher Education plays a critical role in equipping undergraduates with essential competencies for the competitive labor market. By prioritizing transversal skills in education, institutions not only enhance learning outcomes but also prepare students to navigate complexities within diverse academic and professional landscapes. The holistic development of transversal skills ensures that graduates are not only proficient in their chosen fields but also adept at adapting to dynamic global challenges and contributing meaningfully to society. These competencies, often termed transversal skills or soft skills, are versatile abilities applicable across various job roles and settings (UNESCO IBE, 2013). Transversal skills encompass critical and innovative thinking, interpersonal and intrapersonal skills, media and information literacy, global citizenship, and more (UNESCO, 2016). This study focuses primarily on the integration of transversal skills, specifically critical thinking and media literacy, within a higher education English for Specific Purposes (ESP) course tailored for Media students. It underscores the significance of nurturing these skills among future Media graduates but also for consumers of the Media in general. Secondly the curriculum design presented exemplifies theoretical concepts put into practical application, demonstrating how critical thinking and media literacy are fostered through structured educational interventions.

Review of the Content of Elementary School Science Books in Iran Based on Cognitive Load Theory

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Abstract:

This study analyzes the content of elementary school science books in Iran using the indicators of cognitive load theory. A content analysis method was employed to examine the texts, questions, and images within the books. Data was analyzed using a categorization questionnaire and quantitative content analysis based on Shannon entropy technique. Initially, data were collected using the categorization table and the checklist of cognitive load components by John Sweller. Subsequently, the frequency matrix was normalized and standardized, and the information load of each category was calculated. Finally, using the information load of the components, the importance coefficient of each component was determined. The findings of the research revealed that, according to the Shannon entropy technique: In intrinsic cognitive load, the component "providing minimal information at each stage" received the highest attention with an importance coefficient of 14.89%. This was followed by "showing relationships between elements" (14.57%), "dividing content into small sections" (14.56%), "organizing content from easy to difficult" (14.35%), and "providing solved examples" (13.99%). In extrinsic cognitive load, the component "distinguishing each stage of problem-solving" received the most attention with an importance coefficient of 24.66% in elementary science books. In germane cognitive load, the component "using more examples" had the highest focus compared to other components, with an importance coefficient of 26.32%. Based on the results of this study, it is recommended that elementary science books be structured as short stories to enhance learning and understanding of the material. This approach can help learners better comprehend and retain information.

Keywords:

Cognitive Load, Science Textbook, Content Analysis, Shannon Entropy.

Challenges Facing Teachers in Using Google Educational Application in Teaching

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Abstract:

This study examined the difficulties in using Google educational applications from the viewpoint of Bisha province' teachers. The research sample consisted of (30) teachers represented in ten schools by (3) A teacher in every school in Bisha Province, and a scale for obstacles to using Google educational applications was developed from the teachers point of view, and the number of ferries of the scale reached (35) ferries, and three dimensions are: availability of skills to use Google educational applications, obstacles to using Google applications Educational, technical, financial, and technical, the methods of developing Google educational applications skills, the descriptive approach was used to answer the study questions, and it was found that the level of availability of the use of Google educational applications by teachers was medium, and that the methods of developing Google educational application skills were high, and based on the results some recommendations were produced Including: the need to educate teachers to deal with obstacles to the use of educational Google applications from the viewpoint of teachers of Bisha Governorate

Keywords:

Google educational applications, school teachers.

Investigating Technological Pedagogical Content knowledge (TPACK) Competencies for Teaching in the E-Learning Environment among Faculty Members at the College of Education and Human Development at the University of Bisha

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Abstract:

This study aimed to investigate availability of the technological pedagogical content knowledge (TPACK) competencies model for teaching in the e-learning environment among faculty members at the College of Education and Human Development, University of Bisha. To achieve this goal, the study used a descriptive survey method, which included a questionnaire consisting of (60) items distributed across the seven domains of the TPACK model, representing: Technological Knowledge (TK), Pedagogical Knowledge (PK), Content Knowledge (CK), Technological Pedagogical Knowledge (TPK), Pedagogical Content Knowledge (PCK), Technological Content Knowledge (TCK), and Technological Pedagogical Content Knowledge (TPACK). The questionnaire was administered to all members of the study population, which consisted of (112) faculty members at the College of Education in Bisha in the first semester of the academic year 1444/1445 AH. A total of (90) of them, constituting (80%) of the study population, responded.

The results indicated that the overall availability of Technological Knowledge (TK), Pedagogical Knowledge (PK), Content Knowledge (CK), and Pedagogical Content Knowledge (PCK) competencies among faculty members at the College of Education, University of Bisha was "very high". Additionally, the availability of Technological Pedagogical Knowledge (TPK), Technological Content Knowledge (TCK), and the overall availability of Total Technological Pedagogical Content Knowledge (TPACK) competencies was also "high".

The study recommended the necessity of developing professional development programs for faculty members based on the TPACK framework to ensure effective teaching in e-learning environments. It also recommended the implementation of the Technological Pedagogical Content Knowledge (TPACK) competency scale for teaching in the e-learning environment for all faculty members, periodic review of results to enhance their competencies, and the utilization of result reviews to identify areas needing technical support and training.

Keywords:

Technology Integration, TPACK Model, E- learning, E-Learning Environment, Faculty Members, University of Bisha.

