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A STUDY ON THE USERS' EXPERIENCE IN LEARNING USING A VIRTUAL REALITY LABORATORY FOR MEDICAL SCIENCES

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Virtual Reality (VR) has been increasingly helping users to understand the real world through immersive learning experiences. For education, technology has been implemented in various settings. As VR allows students to be to destinations virtually without leaving the classroom or the comfort of their room, the potential of VR for learning is enormous. In the field of sciences, the application of VR also has increased rapidly. Studies show that the students who used VR performed significantly better in learning than those who only learned using virtual videos. However, a good design should be considered in developing VR-based learning material for science students. Thus, this study described the design and development of a VR medical science lab and evaluated the users' experiences using the lab for learning. A group of 30 students was asked to test the VR using head-mounted devices, and their experiences were recorded. The results show that a VR lab can be a good learning material and provide immersive learning experiences. The results from this study can assist curriculum developers, educators, and VR system developers in considering the usage of VR in the development of Virtual Laboratory for medical sciences learning.

Keywords: virtual reality, medical sciences, laboratory, experiences, multimedia, immersive, information technology

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VIRTUAL REALITY TRAINERS FOR STUDENTS WITH DISABILITY: ANALYSIS OF STUDENTS' MOTIVATION AND MOTOR PERFORMANCE SCORE

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Despite the growing policy, academic, and political interest following the gradual trend toward including students with disabilities in mainstream national schools, few studies have described the successful inclusion of special needs students (SLD) in teaching and learning. As inclusive education is a fundamental human right, educators should find more ways to include the SLDs. Virtual Reality (VR) offers 3D virtual environments with advanced forms of interaction that are highly motivational for learning. VR provides an interactive experience wherein one can become immersed in a computer-generated environment. Nonetheless, there is limited research on using VR for students with disability (SLD). Physical Education (PE) has been a compulsory subject in Malaysia to develop skills, knowledge, values, and attitudes to stay healthy. Many studies have tested the use of VR in helping students learn PE. Thus, this study tested VR trainers in teaching PE to the SLDs. The experiment includes developing a VR application and getting feedback from the students who used it. In this study, the motor performance and motivation of the experimental group were evaluated to measure the effectiveness of the VR trainers in helping the SLD to learn. The results proved that combining immersive technology with motor learning theory made it possible to motivate SLDs and increase their motor performance score in learning PE.

Keywords: physical education, virtual reality, inclusive education, students with disabilities, slow-learners, sports

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EXPLORING LEARNING DISABILITY STUDENTS' EXPERIENCES IN USING AR TECHNOLOGY IN PHYSICAL EDUCATION

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In this century, Augmented Reality (AR) is a “reality” technology that has begun to be integrated into the curriculum and school subjects. The goal is to help increase student learning motivation, increase the effectiveness of learning activities, and much more. Unfortunately, for Physical Education (PE) subjects, implementing AR into teaching and learning activities is still difficult to find. Nowadays, many types of disabilities can be found, including learning disabilities. Just like their peers, children with learning disabilities are intelligent. However, if left to their ways or taught using conventional techniques, they may have trouble with reading, writing, spelling, reasoning, and information organization (Rachamalla & Rafi, 2016). This study will explore the effects resulting from the use of AR technology in the learning process of students with learning disabilities (SLDs) on PE learning experiences. Since this is the first experiment, the research will use an exploratory case study to gather comprehensive data for each students learning experience using this augmented reality app. This will allow researchers to understand the relationship between the phenomena and the case and thoroughly understand one or more situations (Randolph, 2008). The results of this study are expected to provide an overview of PE classes in the future, where technology has begun to be integrated that can be used as a new learning medium for students and provides research opportunities for researchers and developers to develop this application further.

Keywords: augmented reality, physical education, student with learning disabilities, mobile application, learning strategies

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**SMALL-GROUP CONSULTATION FOR THE SUBJECT OF ANIMATION IN MULTIMEDIA:
A STUDY ON CLASS FACILITATION, STUDENTS' PERCEPTIONS AND LEARNING
ACHIEVEMENTS**

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The effectiveness of online learning has been discussed in a lot of studies. Online learning is undoubtedly the best way to ensure learning continuity in the era of the "new norm". Still, there may be some drawbacks, such as a lack of human touch, no face-to-face discussions, and less student engagement and interaction. A loss of social interaction and the inability to participate in study groups, two challenges that students once cherished, are now faced by students. The facilitation of online learning is crucial to ensure that all the learning outcomes are achieved at the end of the lesson and is also essential to ensure the learning process runs smoothly. Learning multimedia subjects online can be difficult for students with no basic background in multimedia. Thus this study investigates the facilitation of online learning in multimedia animation by using a small group online as an intervention to help online facilitation of the subject. The evaluation of the online facilitation showed that most students needed online resources to be constantly accessible, learning outcomes should be provided for each lesson, and support should also be given outside class. This result also showed that the students who had experienced learning with the small group consultation intervention scored significantly higher learning achievements than the control group. The students also provided positive reviews on the intervention and wanted the other subjects to apply the method. The result also ranked the most needed item that educators should focus on when planning their online teaching. The results from this study can be used as a guide for future planning of online learning, especially for students with no or less basic skills in multimedia animation.

Keywords: multimedia, online learning, consultation, small-group, e-learning

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MOODLE SYSTEM FOR PREPARATION OF SURGERY MEDICAL STUDENTS DURING THE WAR

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Martial law has been introduced in Ukraine since February 24, 2022. Which other sectors, the education sector has been affected by this dire situation: educational institutions have started distance learning. Initially, a forced vacation was organized for the students, it was closed all educational institutions, teaching and learning are suspended activity. Subsequently, the training was continued in an online format for domestic and foreign citizens of all forms of education. Taking to attention, that the proper teaching of surgery in the whole complex of others discipline creates conditions for quality medical practice in the future, it became necessary to optimally use the modern ones information resources and technologies. Learning should be active the process is giving students tasks to use the received information in practical situations, while different ones are offered forms of communication: game, joint work, exchange of ideas when students can develop knowledge and skills using various cognitive and operational means and tools. At the same time, students are studying record and display their activities. This study aims to examine the effectiveness of remote of e-learning among medical students during study disciplines "Surgery" - module 1 "Emergency abdominal surgery and proctology" and identify possible problems, limitations, satisfaction as well as prospects for this learning approach in extreme conditions, especially learning practical skills in the context of distance learning of surgery. Practical skills include several categories of material, intended for assimilation and reproduction by students.

Keywords: medical, students, Moodle, surgery, education

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ALGORITHM OF DIAGNOSIS AND TREATMENT OF PATIENTS WITH CHRONIC HEMORRHOIDS

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Algorithm of diagnosis and treatment of patients with chronic hemorrhoids including any others steps: General Considerations, Clinical Findings, Differential Diagnosis, Complications, Treatment, Prognosis. Essentials of Diagnosis "Hemorrhoids": a) rectal bleeding, protrusion, discomfort; b) mucoid discharge from rectum; c) possible secondary anemia; d) characteristic findings on external anal inspection and anoscopic examination. General Considerations for chronic hemorrhoids including investigations of external hemorrhoids and internal hemorrhoids. Clinical Findings including analysis of symptoms and signs on examination. Differential Diagnosis patients with chronic hemorrhoids in first time application with similar manifestation for rectal cancer and other diseases for anorectal zone. Complications of chronic hemorrhoids: bleeding, prolapse recti and acute phlebotrombosis. Treatment may be any other for concrete of studies chronic hemorrhoids: First-degree, Second-Degree, Third-Degree and Fourth-Degree. Concrete of treatment program may be for patients with complications: for bleeding, for prolapse and for acute phlebotrombosis. Treatment Program for patients with hemorrhoids may be: Medical Treatment with application medicament's drugs, Rubber Band Ligation, Hemorrhoidectomy with application traditional and any others modern methods for excision, Sclerotherapy and Cryosurgery with application more any others mini-invasive methods. Prognosis for patients with chronic hemorrhoids after medicament's or surgical treatment is favorable.

Keywords: hemorrhoids, patients, algorithm, diagnosis, treatment

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DETERMINANTS AFFECTING THE QUALITY OF ONLINE TEACHING IN THE MEDICAL UNIVERSITIES

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The aim of the present study is to highlight some challenges and barriers to e-learning during the Covid-19 pandemics as perceived by the academic staff. Material and methods. An online survey was conducted among 249 faculty members from two medical universities in Bulgaria in the period from September through October 2020. Most of the participants were women - 174 (69.9%). The interview based on online questionnaire included 26 items related to: the advantages and disadvantages of e-learning, work life balance of academic staff; attitudes and willingness to e-teaching. Descriptive statistics and exploratory factory analysis were applied for statistics ($P < 0.05$). Results. The KMO test and the Bartlett's test of sphericity showed that the data were adequate for factorial analysis ($KMO = 0.930$, Bartlett's Test of Sphericity, $P = 0.000$). EFA found out that the level of academic staff satisfaction with e-learning was affected by four groups of factors. They accounted for 56.33% of the total variation. The results outline some barriers during the teaching as: disruption of the balance between personal and professional time and the work and rest rhythm; weakening of the relationship between teachers and students; difficulties in learning of practical skills; and technical and organizational problems. The opportunities to overcome these challenges and difficulties are associated with: interactivity of the learning material using MS Teams platform and other applications; improved access to educational materials; more opportunities for discussion; better control and easier assessment of students' knowledge. In addition, the positive staff's expectations depend on their preliminary experience with e-resources. Conclusion. The survey revealed that positive attitudes and willingness to implement e-learning in the Medical Universities dominate.

Keywords: e-teaching, students, academic staffs, digital education

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THE COSTS AND BENEFITS OF E-LEARNING IN MEDICAL UNIVERSITIES IN A PERIOD OF GLOBAL ECONOMIC CRISIS

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E-learning is a flexible way of education widely used as an alternative to conventional way of learning during the COVID-19 pandemic. The purpose of the study is to determine the effectiveness of e-learning in periods of global economic crisis according to information from one Medical University in Bulgaria. Economic methods of analysis were used and a detailed assessment of the costs and benefits associated with the two forms of training was made. Specific costs associated with e-learning include: hardware and software costs, equipment repair and updating, expenses associated with transmission access, network and telecommunications infrastructure. The specific costs associated with conventional learning include: hardware and software costs, computer and multimedia equipment, maintenance and repair of classrooms, cleaning and disinfection, lighting and heating of buildings. This study concludes that learning and teaching in an electronic environment provides many advantages, including reducing costs and improving access to education in times of economic crisis.

Keywords: costs-benefits, e-learning, medical sciences

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VALIDATING LIGHT PHENOMENA CONCEPTUAL ASSESSMENT USING CTT AND IRT FRAMEWORK

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Light phenomena conceptual assessment (LPCA) is a conceptual survey about light phenomena recently established within physics education research (PER) community. Studying the psychometric properties of LPCA is imperative to evaluate its measurement quality. This study is intended to psychometrically analyze LPCA using the lens of classical test theory (CTT) and item response theory (IRT) framework. Dataset in this paper was obtained from the open data repository drawn from eight Rwandan secondary schools ($n = 283$). Global fit indices, item fit, and person fit summarized that the 2-parameter IRT model was the most appropriate measurement model for understanding the psychometric properties of LPCA dataset. Assumption of unidimensional and local independence also can be confirmed through 2-PL IRT model. The comparison of characteristics reported by IRT supported and complemented what has been reported using the CTT. The information curve of IRT modeling suggested that LPCA has well performed in measuring students' conceptual understanding about light phenomena. Both CTT and IRT framework suggested minor improvements at particular item of LPCA. Some suggestions for the LPCA improvement are also provided in creating the better conceptual assessment about light phenomena throughout this paper.

Keywords: validation, light phenomena, conceptual assessment, CTT, IRT

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ARTIFICIAL INTELLIGENCE AND BUSINESS ETHICS: AN INTEGRATED COURSE-DESIGN FRAMEWORK

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The last few years have witnessed significant integration of technology, particularly Information and Communication Technology (ICT) in both content as well as delivery of business courses in higher education. On the one side, the contents related to technological applications are increasingly expanding the space in business education curriculum while on the other hand the mode of delivery has also been significantly influenced. The teaching of business ethics involves a number of distinct issues, often challenging educators to plan and deliver the course effectively. The current chapter, which is based on review of literature as well as authors' own experiences in teaching business ethics in university courses, critically examines the role of technology as enabler of business ethics course delivery. The Chapter also provides a framework of how the technology can be used to link the teaching, research and participative community action in enhancing the relevance of business ethics teaching in a given context.

Keywords: business ethics, technology, artificial intelligence, action-learning, pedagogy, education

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**ANTI-CORRUPTION EDUCATION IN MANAGEMENT PROGRAMMES: LEARNING
STYLE VERSATILITY AND ARTIFICIAL INTELLIGENCE (AI) APPLICATIONS IN COURSE
DEVELOPMENT AND DELIVERY**

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Effective anti-corruption education in management requires a careful understanding of the context. At the different stages of the anti-corruption course design, we need to consider a variety of factors related to the target learning group and their respective context. Learning style versatility is an important factor that needs to be analyzed for an effective and outcome-linked course in Anti-Corruption. The emergence of artificial intelligence provides a lot of opportunities for automated identification of learning style versatility of target learning group and suggests customized course contents, pedagogy, and assessment framework for the given learning group with desired course outcomes learning group characteristics. We must be ready for the innovation in the course development though integration of LSV with power of Artificial Intelligence. The suggested framework can be adapted under different contexts as per the need. The chapter is conceptual in nature and provides a generic framework for applying artificial intelligence (AI) in developing the anti-corruption course tailored to the target.

Keywords: anti-corruption education, artificial intelligence, learning style versatility, curriculum design

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IS THE UAE READY FOR THE FOURTH INDUSTRIAL REVOLUTION? DEVELOPMENT OF ARTIFICIAL INTELLIGENCE IN THE UNITED ARAB EMIRATES

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Artificial Intelligence (AI) is now part of the daily lexicon given the widespread adoption of devices based on AI and related capabilities. Several studies suggest that AI has heralded the Fourth Industrial Revolution. The birth of the concept of AI can be traced back to the workshop held in 1956 at Dartmouth College in the United States based on the premise that machines would be invented that would be as intelligent as human beings. Several studies have been conducted to examine the development of AI since the 1956 inaugural workshop. The focus of this paper is to review the development of AI with particular reference to the United Arab Emirates (UAE) given the strategic intent of the government to transform the economy from oil dependency with the deployment of AI initiatives across the Emirates in a variety of industries including the transformation of the governance process in the UAE. The UAE's Ministry of Artificial Intelligence overall strategy is to provide assistance to support various future service, sectors and Emirates-wide infrastructure projects. The ultimate goal is to enhance government performance at every level through the integration of smart digital systems to boost efficiency and effectiveness of administrative, economic and social services.

Keywords: governance transformation, artificial intelligence, fourth industrial revolution, United Arab Emirates

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**THE EFFECT OF TEACHERS' JOB SATISFACTION ON LEARNERS' ACADEMIC
ACHIEVEMENT IN BIOLOGY IN THE NEW JUABEN NORTH DISTRICT OF THE EASTERN
REGION OF GHANA**

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In spite of the fact that teachers are an essential component of educational systems, there are worries about their retention in the wake of the recent emergence of the labour market in general and within the educational system in particular, particularly in schools serving underprivileged regions. It is important to point out that elements that affect teachers' job satisfaction also have an impact on job performance, which in turn determines the context of the job. It is in light of this that this study sought to ascertain how the teachers' job satisfaction affected biology students' achievement in the New Juaben North District. The design of the study was a descriptive survey. The research subjects were the school heads and biology teachers. Purposive sampling technique were used to select 4 school heads while simple random sampling technique were used to select 80 biology teachers. The main instrument was a structured questionnaire, and the Statistical Package for Social Sciences was utilised to analyse the data (SPSS). The result showed that, 72.62%(61) respondents believed that changing teachers' working conditions will have a favourable impact on students' academic achievement. The research concluded that job satisfaction influenced academic performance of students.

Keywords: job satisfaction, academic performance, job dissatisfaction, biology, learning

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**THE EFFECT OF A TEACHER'S QUALIFICATIONS AND WORK EXPERIENCE ON
LEARNERS' ACHIEVEMENT IN BIOLOGY WITHIN BIRIM CENTRAL MUNICIPALITY,
GHANA**

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Teachers are an essential resource for learning: the quality of a school system cannot exceed the quality of its teachers. Teachers interact with students daily and help students acquire the knowledge that they are expected to have by the time they leave school. Teachers play the most essential role in boosting students' academic achievement. It is as a result of this that the study tried to ascertain the impact of teachers' qualifications and professional experience on students' biology achievement in Birim Central Municipality of the Eastern Region, Ghana. The study used survey design. Purposive sampling was used to select 4 school heads while simple random sampling were used to select 80 biology teachers. A questionnaire served as the main research instrument, and the data analysis was accomplished with the help of the Statistical Package for Social Sciences (SPSS). The results indicated that many respondents (60.7%) firmly agreed that teachers who possessed superior knowledge and skills were better able to instruct students. Majority of those surveyed strongly agreed that experienced teachers were more understanding whenever it involves dealing with behavioral issues of children. The study concluded that teachers' qualifications and professional experience influence students' performance.

Keywords: teachers' qualification, teachers' experience, academic achievement, teaching, students

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ECONOMICAL, ENVIRONMENTAL AND POLITICAL ASPECTS OF PV RECYCLING IN THE LIGHT OF FUTURE PROJECTIONS

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Photovoltaic materials or a solar cell, is an electronic device that converts the energy of light directly into electricity by the photovoltaic effect. There are several different types of PV cells which all use semi conductors to interact with incoming photons from the Sun in order to generate an electric current. Photovoltaic solar cells or panels are accepted as a reliable and non-polluting alternative energy. The PV market grew catastrophically since the last two decades, which is mainly accompanied by the falling prices of solar cells, in special of silicon. PV modules, which will provide a large part of the energy need in the coming decades, may cause a major environmental disaster if they are not recycled after completing their economic life. However, the economic feasibility of recycling is uncertain. On the other hand, both the lack of a technological solution for PV recycling and an international policy in this area are seen as a major shortcoming. In this study, the economic and environmental impact of PV recycling was investigated by taking into account the projection studies carried out by different institutions.

Keywords: PV recycle, renewable energy, critical raw material, recovery, enviromental impact

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HAS HUMANIZING THE DRUG DISCOVERY AND DEVELOPMENT PROCESS WITH ORGAN-ON-CHIPS CONTRIBUTED TO BREAKING EROOM'S LAW?

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The drug discovery and development process is both time and cost intensive. Eroom's law published with data up to 2010, stated that total costs of R&D on new drugs approved by the US FDA had risen exponentially for 60 years. However, the changes in the costs associated with failed new molecular entities have started to decline, which led to the breaking of the rule. One of the underlying reasons for that has been articulated as the usage of human genetic data to understand diseases. As such, better decision-making processes implemented by leading pharmaceutical companies setting the threshold to terminate failing programmes at earlier levels might have been the other reason. In this study, organ-on-chips are hypothesized as another valid reason, breaking Eroom's Law as key parameters related to molecular, cellular and physiological features of human disease progression have been considered while developing such models. Although animal models have been widely used, interspecies differences such as absorption, tissue distribution, metabolism, and excretion of pharmaceutical agents and toxins result in contradictions in terms of replication of animal studies to human randomized trials and translation to clinical trials. Indeed, organ-on-chips have arisen as powerful tools to overcome these limitations. Organ-on-chips populated by human primary cells and/or stem cells can recapitulate in vivo organ level physiology and pathophysiology by recreating tissue and organ level functions in vitro. Cancer metastasis-on-chip models used to assess the efficacy of drug therapies will be elaborated. In the short to medium term, more efforts are anticipated in engineering advanced microfluidic systems to develop organ-on-chip platforms for predictive translation of preclinical findings into clinical studies.

Keywords: drug discovery, Eroom's law, microfluidics, organ-on-chip, cancer models

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LEADERSHIP JOURNEY IN SCHOOL: A BIBLIOMETRIC ANALYSIS OF INSTRUCTIONAL LEADERSHIP FROM 1941 TO 2022

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Leadership in educational settings, especially in schools, has a long history. Instructional leadership is a leadership style that is seen to increase school effectiveness. This study aims to map bibliographic data on instructional leadership over the past eight decades (1941-2022). The quantitative research approach to analyzing bibliographic information using bibliometric analysis was sourced from the Scopus database, which initially amounted to 951 documents, then became 717 documents after the screening process. Hallinger P. is the author with the most co-authorship networks, and the United States is the most co-authorship network on instructional leadership. The article "The Impact of Leadership on Student Outcomes: An Analysis of the Differential Effects of Leadership Types" by Robinson, V. M. J. (2008) is the article with the highest number of citations, and Hallinger P. is the author with the highest number of citations. The author's co-citation visualization of instructional leadership reveals 4 clusters: 1) measuring the instructional leadership, 2) school effectiveness and improvement, 3) the role of the school principal, and 4) leadership for school restructuring, performance, and achievement. The keyword network visualization for instructional leadership reveals 4 clusters: 1) the impact of instructional leadership on school climate, 2) the application of instructional leadership in school settings, 3) the relationship of instructional leadership with the concept of educational leadership in general, and school principals in particular, 4) instructional leadership efforts in developing professional and leadership teachers and teaching and learning processes that ultimately improve accountability. Future research about instructional leadership focuses more on teacher efficacy, school climate, principal preparation, and teacher professional learning.

Keywords: instructional leadership, bibliometric analysis, school principal, school effectiveness, school climate

FINANCIAL EDUCATION IN THE DIGITALIZATION ERA: A BIBLIOMETRIC ANALYSIS

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In the era of digitalization, financial education is essential because it is one of the most critical skills a tech-savvy generation z can acquire. Seeing the rapid change in financial access from traditional to digital today, with bibliometric approach seeks to present how financial education is needed in digital finance. It is increasingly evolving so that Generation Z does not fall into digital traps such as credit and impulsive purchases. Based on the Scopus database, 137 documents have been published from 1999 to 2022. Journals, authors, countries, articles, themes, and publication trends have been used to identify influential works, describe financial education in the era of digitalization, and identify gaps. The United States is the leading producing country with 69 documents and is also the most in citations. In addition, bibliometric analysis shows that the journal of financial counseling is the most productive journal researchers often go to on financial education; next, there is Journal of Consumer Affair. Of the 332 keywords used in the document, financial literacy, financial knowledge, and financial behavior are often identified. Recent themes identified in the last three years include financial inclusion, digital finance, and financial technology. This study provides a comprehensive overview of the state of research on financial education in digital finance for generation z in the transition period to lead to financial well-being. The results are particularly relevant for children studying financial education, given the rising levels of credit and impulsive purchases for Generation Z in the digital financial age, which exposes individuals to fast financial services and requires informed decision-making. This study helps academic researchers know the core of financial education and identify relevant areas that need to be investigated in future research.

Keywords: financial education, digital financial, Generation-Z, Scopus database, bibliometric analysis, VOSviewer

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TEACHING SUSTAINABILITY OUTSIDE THE CLASSROOM: PRELIMINARY FINDINGS OF FOOD WASTE FROM INDONESIAN UNIVERSITY STUDENTS

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The fact that Indonesia becomes the first country contributing to food loss and food waste among the G20 countries in 2021 is an opportunity to evaluate the effectiveness of sustainability education taught in universities. This study aims to map students' initial knowledge and skills in processing the food waste and to create an integrated food waste management design in a higher education institution. An explanatory sequential mixed method was used in this study involving 382 student respondents for the quantitative phase and three institutions for the qualitative phase. The quantitative phase found that 66.8% of students did not have experience processing organic waste, and 71.7% of them admitted that they did not sort waste in their daily lives. However, 63.4% of students considered that they had behaved in an environmentally friendly manner. This finding is then communicated with several related institutions to develop an integrated sustainability education model outside the formal curriculum to improve students' knowledge and skills in processing food waste.

Keywords: sustainability, education, food waste, higher education institutions

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CONSTRUCTION OF PANCASILA STUDENT PROFILE ASSESSMENT FOR 21ST CENTURY STUDENT IN ELEMENTARY SCHOOL

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Student Profile Pancasila is a character that characterizes Indonesian students. For this reason, the character values of Pancasila students should be instilled in schools from an early age. The purpose of this study was to construct a Pancasila student character instrument for elementary school students. This study uses a quantitative approach with a sample of 697 grade 3 and grade 4 students in Soppeng district. Data analysis in this study uses validity and reliability. Content validity using Aiken's V for 40 items succeeded in reducing the instrument to 35 items with a validity index at 0.76 – 1. CFA analysis to prove content validity shows that the model is fit with 24 items. Thus it can be concluded that the 24 items of the Pancasila Student Profile instrument in construction terms can be used to measure the character of 21st century students in Indonesia.

Keywords: character, Pancasila student profile, validity, reliability

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IMPLEMENTATION STRATEGY OF ISLAMIC-BASED CHARACTER EDUCATION ON CHILDREN WITH SPECIAL NEEDS IN HARSYA INCLUSIVE SCHOOL BANDA ACEH

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Character education is very hard to implement in an inclusive school, especially for children with special needs. Inclusive school needs some treatment or strategy for children with special needs for receive their objective goal study. This phenomenological study explored how the implementation strategy of Islamic-based character education and the obstacle in Children with Special Needs in Harsya Inclusive School Banda Aceh, Indonesia. This research approach is qualitative research. Data collection was carried out by interviews. 7 teachers from Harsya Inclusive School were interviewed. Data analysis was performed using ATLAS. ti 22 software. The results showed that the implementation strategy of Islamic-based character education in Children with Special Needs in Harsya Inclusive School Banda Aceh Indonesia includes friendly and communicative, observation, social care, Image media, evaluation, independence, Therapy, religious value, discipline, communication, patience, reward, understanding of children, training, sentra, regulation, cooperation with parents, mentoring, habituation, moral value, punishment, repetition, storytelling. Meanwhile, the obstacles in implementing an Islamic-based character education strategy at Harsya Inclusive School are different character, child tantrum, child development, focus or concentration, unable to speak, hyperactive, Behavioral disorders, emotional, verbal disorders, and gadget addiction. We argue that the inclusion school would have benefit from a more complete understanding of implementation strategy of Islamic based character education specially for children with special needs.

Keywords: character education, children with special needs, inclusive school

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INVESTIGATION OF RESULTS LABORATORY AND INSTRUMENTAL METHODS FOR DIFFERENTIAL DIAGNOSIS OF ULCERATIVE COLITIS

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Ulcerative Colitis is a diffuse inflammatory disease confined to the mucosa initially. Abscesses form in the crypts of Lieberkuhn, penetrate the superficial submucosa, and by spreading horizontally cause the overlying mucosa to slough. Vascular congestion and hemorrhage are prominent. Cardinal symptoms: rectal bleeding and diarrhea. The most difficult differential diagnosis is between mucosal Ulcerative Colitis and Cronh's disease or cancer colon. Application laboratory methods of investigation: results of general clinic blood analysis, results of biochemical blood analysis, results of general clinic urine analysis. Imaging studies: barium enema examination with x-ray. Colonoscopic finding with biopsies: Morphology - confluent involvement, rectum usually involved, mesocolon not involved and nodes enlarged, widespread ragged superficial ulceration, inflammatory pseudo-polyps, no thickening of bowel wall and other pathological results; Microscopic – inflammatory reaction usually limited to mucosa and submucosa; only in severe disease are muscle coats involved; no fibrosis; granulomas rare. Investigation of results laboratory and instrumental methods for differential diagnosis of Ulcerative Colitis and other similar diseases: Cronh's disease and cancer colon, and application in work for gastroenterologists, proctologists, oncologists and rheumatologists.

Keywords: investigation, diagnosis, differential, ulcerative, colitis

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TREATMENT PROGRAM FOR PATIENTS WITH ULCERATIVE COLITIS

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Manifestation for Ulcerative colitis – essential of diagnosis: diarrhea, usually bloody; abdominal cramps; fever, weight loss, anemia; absence of specific fecal pathogens; endoscopic and radiographic abnormalities. Treatment program for patients with Ulcerative colitis including more steps. Conservative treatment depended from active process of disease: a) mild attack – diet, 5-ASA 2-8 g/d, corticosteroids 100 mg; b) severe attack – severe or fulminating Ulcerative colitis requires hospitalization; corticosteroids are given intravenously initially as hydrocortisone (100-300 mg/d) or prednisolone (20-80 mg/d) + 5 ASA-therapy; c) maintenance – hospitalization; 5-ASA-therapy + corticosteroids therapy + immunosuppressive therapy. Anti-inflammatory medications are often the first step in the treatment of ulcerative colitis and are appropriate for most people with this condition. These include: - 5-ASA. Examples of this type of medication include sulfasalazine (Azulfidine), mesalamine (Delzicol, Rowasa, others), balsalazide (Colazal) and olsalazine (Dipentum). Which medication you take and how you take it — by mouth or as an enema or suppository — depends on the area of your colon that's affected. - Corticosteroids. These medications, which include prednisone and budesonide, are generally reserved for moderate to severe ulcerative colitis that doesn't respond to other treatments. Corticosteroids suppress the immune system. Due to the side effects, they are not usually given long term. Surgical treatment including analysis two situations: 1. Indications: a) acute disease and b) chronic disease. 2. Surgical procedures: a) laparotomy or b) laparoscopy operations. Prognosis: The mortality rate of Ulcerative colitis has dropped sharply in the last decade or two, and older figures no longer apply.

Keywords: treatment, program, Ulcerative, colitis

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DEEP DIVE INTO TEACHERS' DIGITAL COMPETENCE TO SUPPORT 21ST CENTURY LEARNING: A SYSTEMATIC LITERATURE REVIEW

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Teachers' digital competence (TDC) should be possessed by teachers in the 21st century learning process because learning resources in this era are not only from one source but many sources along with technological developments. This study aimed to provide an overview of the dimensions of TDC, the level of TDC, obstacles, and solutions to improve teachers' digital competence. Data were collected through Google Scholar, Emerald, Elsevier, Wiley, IEEE, Taylor & Francis. From these, 47 articles were investigated to address the focus of this research issue. The results show that the dimension of TDC widely used was the DigCompEdu 2.0 framework from the European Commission. Based on TDCs' classification using teacher competence as stated in Indonesia's Law No. 14 of 2005, previous researchers tended to discuss the dimensions of TDC which focused on professional competence (46.67%), pedagogic competence (29.33%), social competence (12%), and personality competence (16%). Furthermore, teachers' average digital competence is still low. So, the collaboration between the government and the school and organizing teacher training is needed to improve teacher digital competence. This study also reveals that heutagogy and synchronous collaborative learning models could be used to enhance TDC in the 21st century.

Keywords: teachers' digital competence, teachers' digital competence dimensions, technology, twenty-first century learning

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**THE DEVELOPMENT OF SUSTAINABLE COMPETENCY ON 21ST BASED HUMAN
RESOURCES TO TEACHER IN ENSURING SCHOOL READINESS FOR HIGHER LEVEL ON
PISA (PROGRAM FOR INTERNATIONAL STUDENTS ASSESSMENTS)**

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The purpose of this study is a literature review regarding (1) portrait of teacher competence towards peak performance in PISA, (2) design of sustainable 21st century competency development, for teachers, (3) design of sustainable competency subconstructs from a tactical operation perspective (4) design of competency subconstructs sustainability from the perspective of strategic operations, (5) constructing school readiness in the education process, (6) the impact of sustainable competence on school readiness, (7) the impact of sustainable competence on PISA. This study uses a qualitative approach to the design of the SLR literature. Literature research is limited to empirical articles or research for 10 years (2012-2022) and the parent book of a theory is not subject to restrictions. 269 articles were successfully collected, and inclusion and exclusion criteria were implemented which were collected into 84 articles. The results of this study are (1) the teacher portrait towards PISA ranking has not met the optimal word because there are problems of adaptability and low competency achievement, (2) the design of sustainable competency development consists of two main constructs namely tactical and strategic operation construct school readiness obtained by the researcher includes literacy knowledge and skills, science knowledge and skills, approaches to learning, (4) sustainable competence is considered to be able to improve school readiness in carrying out the educational process in accordance with the 4.0 era, and (5) through continuous competency development the PISA ranking can be restored gradually.

Keywords: sustainable competency, teacher, school readiness, PISA

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DESIRING THE DATA, DESIRING THE SELF: WEARABLES AND THE PRACTICE OF SELF-SURVEILLANCE AS SELF-KNOWLEDGE

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This paper analyzes how the materiality of desire afforded by wearables is present within the practice of self-surveillance. Wearables, such as smartwatches, allow for easy tracing and storage of one's activity, but they require the wearer to engage in self-surveillance. While giving away one's data to gain access to online services is motivated by efficiency and 'free' accessibility, the practice of self-surveillance in wearables is blurrier. In this paper, I situate the notion of desire as central to the practices of digitalized self-surveillance. This paper follows two lines of inquiry: first, a historical perspective, and second, an ontological perspective. First, the pleasure of digital self-surveillance is linked to the notion of agency and control exercised by self-disembodiment. Disembodiment is briefly analyzed in the context of record-keeping from the 18th century onwards, such as in diaries and agendas, that establishes a disembodiment view of the self through a distant view of the past and presence. Such a view, 'from outside to inside,' is linked to the pleasure inherent in self-tracking across time. Second, the ontology of digital self-surveillance is discussed following Foucault's notion of desire and Haraway's critique of "corporeal fetishism." Wearables afford disembodiment of the self into its datafied double, morphing the dualities of subjectification with objectification. The body becomes a data object, at once a stable entity and an object-in-making. The pleasure – or fetish – arises in the blur, in the ambiguous in-between of leisure with labor, self and other, past and future. Yet there is a threat in perceiving data as an objective mirror of reality (and thus self) rather than a set of opaque algorithm-driven ('cooked') digital objects. While the quantified self-associates self-knowledge with self-optimization, perceiving its data body as an extension of the self in McLuhan's sense, these technological desires are far from the truth.

Keywords: wearables, surveillance, self-surveillance, body, datafication, tracking, self-tracking, desire, disembodiment, data collection, data double, smartwatches, digital self

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AN INVESTIGATION OF RHETORICAL QUESTIONS IN OBAMA’S AND CAMERON’S POLITICAL SPEECHES

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Rhetorical questions (henceforth RQs) are one of the significant linguistic forms used by a politician to achieve effective communication strategies. The present paper aims at investigating the significance of RQs in political discourse by examining Obama’s and Cameron’s political speeches and comparing them to different social, political, and economic dimensions during the period (2014-2015). The study sample includes twenty speeches: ten speeches for each president. The method of research will be quantitative and qualitative in nature so as to examine the strategic use of RQs by Obama and Cameron to achieve their political goals. More specifically, it examines the functions, features, and types of these questions in light of the topic of speeches. The results show that Cameron is more capable of achieving rhetorical effects in his speeches than Obama and both of them use Wh-questions more than other types of RQs. Besides, the use of RQs in social topics is more than in political and economic topics.

Keywords: rhetorical questions, ordinary questions, syntactic functions of RQs, pragmatic functions, social issue, and political goals

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**CONTROL STRATEGIES AT MRICAN LANDFILL, PONOROGO REGENCY, INDONESIA:
IDENTIFICATION OF POLLUTANT IMPACTS, SWOT ANALYSIS, AND POLLUTION
CONTROL STRATEGIES**

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One of the environmental problems whose existence is difficult to control and which is massive in Indonesia is pollution due to less than optimal waste management. As in the Mrican Final Disposal Site (TPA) which is located in Jenangan District, Ponorogo Regency, East Java with an area of ± 2.7 Ha and has been operating since 1995. The most significant problem arising from the landfill is leachate. Leachate can seep into groundwater and rivers, impacting the environment. This study aims to analyze the impact of pollution and formulate a pollution control strategy at Mrican landfill based on SWOT analysis. The research method used is descriptive qualitative consisting of secondary data and primary data to formulate pollution control strategies based on SWOT analysis. Of the 4 alternative SWOT matrices, the SO strategy is -7, the WO strategy is -6, the ST strategy is -16, and the WT strategy is -15, this value shows a negative result. So it is necessary to develop the right strategy for pollution control by suppressing negative values. The strategy is formed based on the SWOT matrix analysis.

Keywords: pollutant impact identification, SWOT analysis, analysis strategy pollution control

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INVESTIGATION OF LEARNING LOSSES EXPERIENCED BY PRIMARY SCHOOL STUDENTS IN THE DISTANCE EDUCATION PROCESS

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In this study, it was aimed to examine the learning losses experienced by primary school students as a result of distance education. The application was carried out in primary schools determined according to accessibility in Kilis. In this study, qualitative research method was used and designed according to the phenomenological design, since it was aimed to determine the learning losses of primary school students. According to this design, since the learning losses of the students were determined, it was aimed to explain directly by making use of their own experiences and perceptions. The phenomenological research design aims to examine individuals' experiences, perceptions, interpretations, and conceptualizations in depth (Limberg,2008). Necessary permissions were obtained from the ethics committee before the research was conducted. 19 primary school teachers were interviewed to determine the learning losses of primary school students. Casualties: It was examined in which grades and in terms of social skills. Opinions on what can be done to compensate for learning losses were collected.

Keywords: learning losses, primary school, distance education

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**WORD OF MOUTH STRATEGY COMBINED ANDHAB ASOR AS PROBLEM SOLVING IN
PLANNING AND ORGANIZING PROBLEMS OF CURRICULUM DEVELOPMENT IN
KORWIL BANTUR**

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This research aims to describes (1) problems in planning and organizing (2) actualization of curriculum planning updates, (3) actualization of curriculum curriculum organization descriptions, (4) "Gethok Tular" word of mouth strategy, (5) description of low self-esteem or low self-esteem strategies. "Andhab Asor". The method used in this study is a qualitative method, through a phenomenological approach with a case study design in the Regional Coordinator of Bantur, Malang Regency. There are 3 data collection techniques used by researchers, namely interviews, documentation studies, and observation. Data analysis techniques used in this study include (1) data collection, (2) data compaction, (3) data presentation, (4) drawing conclusions/verification. The validity data obtained through this study used technical triangulation and source triangulation, with persistence, reference testing, and member checking. The results in this study indicate that (1) the main problems that occur in planning and organizing are the lack of technology, (2) the actualization of curriculum planning planning, using online vark questionnaires to determine the learning model used by teachers with the planned 2013 curriculum design, (3) the actualization of curriculum organization lies on the basis of the patchwork curriculum and the integrated curriculum as the type of organization. (4) the word of mouth strategy is considered capable of overcoming the lack of technology from senior teachers, (5) the "Self Humble" or "Andhab Asor" strategy is considered capable of overcoming the demotivation of teachers in learning to create digital-based media.

Keywords: word of mouth, updated curriculum, planning, organizing

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THE CORRELATION BETWEEN STUDENTS' QUESTION WORDS MASTERY AND THEIR SPEAKING ABILITY IN ASKING INFORMATION

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The research proposed to examine whether there was any significant correlation between students' question words mastery and their speaking ability due to the students' difficulty in asking information about someone' personal information. There were 28 students as the samples in this research selected by using simple random sampling. This research used a quantitative approach which was presented in correlational research design. In collecting the data, the researcher used a test which consisted of a written and spoken test. The written test aimed to measure the students' question words mastery consisted of 27 questions. Meanwhile, in measuring the students' speaking ability in the form of a spoken test, the students were asked to do a short dialogue with their peers asking and giving information about their family and daily activities. Then, the data analysis was conducted based on the students' written and spoken test results and its correlation was measured. The result of the data analysis of the students' question words mastery and their speaking ability were fair proved by the mean scores of these were 69,6 and 70,8. Finally, the value of r_{obtained} was 0.608 which was higher than the value of r_{table} 0.374. In conclusion, there was a strong significant correlation between students' question words mastery and their speaking ability in asking information.

Keywords: question words mastery, speaking ability

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IMPACT OF PRE-SCHOOL EDUCATION ON CHILDREN'S ADMINISTRATIVE AND EDUCATIONAL COMPETENCIES

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Childhood is the most important stage that a person goes through, and it represents the focal point in his later stages. Pre-school child-rearing institutions appeared, as these institutions receive children between three and five; To achieve the appropriate educational goals for the child, and help him in building his personality and knowledge, and his integration into the social environment to which the child belongs, as well as in his psychological, mental, and emotional preparations. Therefore, the research came with the aim of identifying the impact of pre-school education on the child's administrative and educational competencies in the first cycle of basic education in the Sultanate of Oman.: Identifying the impact of pre-school education on the administrative competencies of students in the first cycle of basic education (leadership, communication, organization, planning). And revealing the role of pre-school education on educational competencies (reading, writing, listening, writing) to come up with a good recommendation for education preschoolers in those skills. The importance of the research is in identifying the quality of pre-school education and identifying its current curricula and their role in highlighting the educational and administrative personality of the child, to come up with a general perception about the importance of paying attention to the curricula of pre-school education and introducing a set of basic improvements in them, to be in accordance with the educational policy in the Sultanate.

Keywords: pre-school education, administrative competencies, educational competencies, the basic education, the first episode

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CHOOSING RELEVANT INTERNET ASSISTED COURSE TYPES FOR PROFESSIONAL DEVELOPMENT

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Online teaching and learning for the professional development of workers in service is ever pervasive and continually growing. However, studies of learning with technology are mostly conducted in K-12, pre-service, or higher education settings resulting in a lack of attention given to the professional development. In addition, most studies are investigating learners instead of instructors, even though the latter are reportedly struggling in conducting online teaching. One of the struggles instructor faces includes choosing effective technologically enhanced course types that are in line with the learning contents and intents. This study aims to alleviate the issue by investigating online learning in a professional development context, particularly one in a government institution such the Financial Education and Training Agency (FETA) under the Indonesian Ministry of Finance. By analyzing curriculum documents known as the program syllabi of 148 online courses conducted by FETA, informed by prevailing theories of adopting educational technology, the present study aimed to uncover practice-based principles to guide the selection of relevant learning types for online courses. It is hoped that the findings from this study will be useful for guiding the practice of crafting a defensible curriculum for online learning in professional development contexts.

Keywords: online learning, online teaching, professional development, internet-assisted learning

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PROJECT-BASED LEARNING: TEACHERS' PERCEPTION & LEARNERS' PREPAREDNESS

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Earlier at the ICRES 2022 we discussed readiness of teachers of the Chemistry Faculty of the Karaganda Buketov University for the student-centered learning approach lately implemented at the Kazakhstani universities. In particular, we studied the progress made by academic staff in mastering interactive lecturing, case-study, problem-based learning etc. In this study we focus on project-based learning (PBL) and reveal teachers' perceptions regarding the method benefits and challenges as well as preparedness for learning by doing from students' perspective. Academic staff of four Departments as well as students and Master students admitted in such educational programs as "Chemistry", "Chemistry-Biology" and "Pharmaceutical Manufacturing Engineering" were involved in our study. These educational programs train both future teachers and technologists. It was crucial to analyze how both undergraduates and postgraduates of different training programs evaluate the project method efficiency in mastering knowledge in chemical disciplines. Surveys of educators and learners were conducted. The collected data was processed and analyzed. The research results show that the academic staff and learners of the Faculty of Chemistry understand PBL from both positive and negative perspectives. The findings can be beneficial for teachers and students, as they will help them to reflect on their own practice in this educational strategy. There has been demonstrated the need for further research in this direction to better understand teachers' and learners' demands in order to improve the method application at the universities in Kazakhstan.

Keywords: project-based learning, benefits, challenges, teachers, learners

BI-MODAL INPUT IN EXTENSIVE LEARNING PROGRAMME FOR INDONESIAN LEARNERS' SPEAKING COMPETENCE

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Printed and auditory stimuli are learners' sources in learning the language, and each act as a complementary way to aid better text comprehension. Previous research findings underscore the benefits of bi-modal input to language learning and development, although none has examined how bi-modal input in extensive learning programme (such as extensive reading (ER) and extensive listening (EL)), impacts L2 learners' language learning. Thus, this study aims at investigating the impact of the bi-modal extensive reading – extensive listening (EREL) approach to improve learners' speaking performance. It utilises a quasi-experimental design with four intact classes in an English Department at an Indonesian public university. The students taking speaking for academic purposes classes were divided into two groups: an experimental group that was involved in both reading and listening activities from Xreading (an online digital library with over 1700 graded readers), and a control group having teacher-led speaking classes. The students' speaking performances from both groups' pre- and post-test assessments were rated based on their fluency, lexical resources, grammatical range and accuracy, and pronunciation by five independent raters. The scores were then submitted to Many-Facet Rasch Measurement (MFRM) for psychometric validation. The results indicated that the students in the EREL group performed better in their speaking performances than the control group (Tukey HSD $p = .004$). The results of this study contribute to the body of knowledge on the implementation of bi-modal input to enhance learners' language development.

Keywords: extensive learning programme, bi-modal input, extensive reading-extensive listening, speaking performance

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NUMERICAL ANALYSIS OF FRACTIONAL ORDER DISCRETE BLOCH EQUATION

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There has been a great deal of interest in the fractional calculus for the last decades. The reasons of this interest are the findings which came to hand when some of the researchers modeled some dynamic systems making use of the fractional operators. On the flipside, the discrete fractional calculus has also attracted the attention of many researchers. This type of calculus dealing with the sums and differences with non-integer order has also many applications in variety of fields. A set of differential equations make up the Bloch equation, DNA, proteins, and nucleic acids are among the pricey biological materials that can be studied with benefit. Process control, liquid media, petrochemical plants, and process optimization in oil refineries are only a few of its practical applications. In this research work, we aim to find the solutions of discrete fractional Bloch equations by defining a new type of h-extorial function with constant coefficient. We find the general solutions for the components of magnetization B_x , B_y and B_z by Mittag-Leffler type function of extorial function. These results show the new approach of Bloch equations on fractional order. Also, we provided the graphical behavior to examine our results.

Keywords: fractional calculus, difference operator, laplace transform, bloch equation, caputo derivative

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**FOR EVERY ACTION IN NATURE THERE IS AN EQUAL AND OPPOSITE REACTION,
WHAT ABOUT EDUCATION?**

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The paper will try to provide an answer to the question whether there is going to be an opposite reaction to total online teaching during the COVID-19 pandemic. Moving totally online was the only outcome at that time, it was not easy either for teachers or for students, however, eventually many of them did quite well and even benefitted from the situation. However, since the return to the traditional, face-to-face, regime of education, there are demands from many stakeholders, including the Ministry of Education, to totally forget the online teaching. The study tried to find out the opinions of students and teachers to what degree this reaction is. It was a qualitative study in the format of interview, which was held with students at Bachelor, Master's and Doctorate level in various majors in Georgia. The conclusion was made that, depending on the majors and the level of studies, the experience of total online teaching, with all its challenges, was a useful one, and its lessons should be further studied and their advantages go on being used.

Keywords: total online teaching, COVID-19 pandemic

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FLIPPED LANGUAGE LEARNING FOR ARTS STUDENTS

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Flipped learning is a teaching methodology which holds most theoretical learning in asynchronous regime online, after which practical classes are conducted face-to-face. This constructivist methodology became especially valuable during and after the total online learning during the COVID-19 pandemic. The greatest academic benefits of this methodology have been found in language, technology, and health-science (i.e., skills-based) courses. Among the English for Specific Purposes (ESP) directions, teaching arts students offers considerable advantages, as it enables the teachers to pre-teach the ESP language (terminology), as well as lets the students participate in virtual excursions to museums, view other videos related to the topic under study at the pace most comfortable for them, so that they are well prepared to the discussion and other communicative activities in class. A survey was conducted among students of an art university in Georgia. The conclusion was made that the majority of students like the methodology, especially if the homework part provides enough support in language (vocabulary, grammar) needed for the comprehension of the video materials.

Keywords: flipped learning, art, language

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RESEARCH ON MODEL OF LEARNER ASSESSMENT IN ONLINE LEARNING FOR HIGHER EDUCATION

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COVID-19 has tackled the whole world sustainability without prejudice with geographical limitation. The pandemic prompted people to move forward to the post pandemic. However, the recurrence of extreme negative effects in response to crisis especially during pandemic COVID-19 in the future is possible. In fact, it could be worsened. This situation has forced the education sector to adjust teaching and learning strategy for a new solution through a selected component, namely assessment. In that case, the implementation of assessment is activated for online learning platform. It is important to refer and study the current environment mode of e-assessment model, in view the of the model development perspective and the features of assessment concept for model development. The degree of assessment conceptual dominant features in online learning including seven (7) criteria's; authenticity, responsiveness, practicability, adaptation, transparency, alignment and affordance. In accordance with overall analysis of conceptual features, the possibility of frequent and synchronization usage is possible to be extended in detail for further study.

Keywords: e-assessment, online learning, model

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A QUESTIONNAIRE-BASED STUDY TO CONSTRUCT AN INSTRUMENT MEASURING E-ASSESSMENT CONCEPTUAL MODEL AMONG GRADUATE STUDENTS FOR NEW NORMAL PHASE

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The justification of research instruments is a crucial part. The significant choice affects the reliability of the data generated as well as its application in determining the best solution and reducing the possibility of a problem. In this article, we discuss how to construct a questionnaire for measuring the conceptual model of e-assessment in response to the new normal phase. The construction process is in accordance with the pre-existing instrument by incorporating seven (7) key variables: authenticity, responsiveness, practicability, adaptation, transparency, alignment, and affordance in response to the normal or pre-crisis phase. However, the crisis challenge, especially the major impact of the COVID-19 pandemic, triggered the associated phase limitation. Therefore, the flexibility variable is proposed to influence each of the key variables with the goal of developing a crisis-proof response to problem solving determination. As a result, the initial pre-existing instrument adopts the adaptation technique via two (2) sequence steps: selection and alterations in respect to the flexibility criteria, including time, content, instruction approach, delivery, and weighting. In this situation, the researcher follows the general design of a pre-existing instrument but selects the items, adds items, removes items, and/or substantially changes the content of each item.

Keywords: e-assessment, instrument, conceptual, flexibility

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SOCIAL WORK EDUCATION IN TÜRKİYE: OPINIONS OF STUDENTS, ACADEMICS AND SOCIAL WORKERS

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Social work practices around the world began to take root in the West from the second half of the 19th century. Social work started to be institutionalized from the beginning of the 20th century and social work education spread throughout the world following the opening of the first social work schools in Western countries. In Türkiye, university education, which was organized under the name of Social Work Academy in 1961, continued to be carried out within the Social Work Department of Hacettepe University. As of today, social work undergraduate education is given in 70 universities in Türkiye. In this study, it is aimed to look at the current situation and future of social work education from the perspective of students, academicians and social workers. The participants of the research, which was designed in a qualitative design, consist of 4 students, 4 academicians and 4 social workers. It was planned to conduct interviews with the participants using semi-structured questionnaires. The data obtained were subjected to content analysis and thematic coding was done first, and then main and sub-themes were created. The findings of the study were discussed in the light of current literature.

Keywords: social work, education, graduation, qualitative method

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LANGUAGE BEHAVIORS SIGNIFYING LECTURERS' SOCIAL IDENTITY IN THE BUSINESS ENGLISH TEACHING CONTEXT

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The present study aims to investigate the socio- and applied linguistic functions and frequency of lecturers' language behaviors (code-switching (CS), code-mixing (CM), and translanguaging) in terms of showing lecturers' social identity in the Georgian educational discourse, namely, in teaching Business English (English for Specific Purposes - ESP) at the university level. Examining Georgian discursive peculiarities is a novel addition to this research field, as very few studies focus on Georgian lecturers' language behaviors in English for Specific Purposes (ESP). Both quantitative (online questionnaires (70 students) and qualitative (8 lecturers' recorded lectures) research methods are used to illustrate the functions of using code-switching, code-mixing, and translanguaging in English for Specific Purposes (ESP) (lecturers' recorded lessons (80 hours). Surprisingly, in contrast to previous studies' findings, we found that the Georgian and English languages are equally used for informal and formal purposes. Both languages are used to express solidarity in classroom conversations. The given study is a unique example in which both English and Georgian are used as marked/unmarked ("We-code", "They-code") choices, as previous studies only considered L1 (first language) as "we-code" and a foreign language (English) was regarded solely as "they code." Within 80 hours of recordings (ESP), 549 cases of code-switching, 103 cases of code-mixing, and 177 cases of translanguaging, planned use of L1 (Georgian) were detected in teaching vocabulary. Consequently, using translanguaging can be beneficial to business English lecturers seeking to improve and fossilize students' Georgian business terminology. The business English lecturers consider the English language to be an inseparable part of their identity, however, they still incorporate the mother tongue in their lectures to encourage the enhancement of Business terminology in the Georgian language.

Keywords: ESP, code-switching, code-mixing, translanguaging, social identity

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PRE-SERVICE AND IN-SERVICE ELEMENTARY SCHOOL TEACHERS' PROCEDURAL AND REPRESENTATIONAL KNOWLEDGE OF FRACTIONS

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The main purpose of this study is to assess pre-service and public elementary mathematics school teachers' conceptual understanding and computational abilities of fractions. 20 pre-service mathematics teachers and 24 in-service mathematics teachers participated in this study. In-service teachers were divided into two categories: one for teachers having a degree in mathematics and the other for teachers having a degree in any other discipline. Results showed that both pre-service and in-service teachers' computational knowledge is greater than their representational knowledge. However, in-service teachers had difficulties in multiplication of mixed numbers (41.7% correct answers). The study revealed that regarding the computational knowledge no significant difference was found between in-service and pre-service teachers. When considering representational abilities, pre-service teachers were able to perform better than in-service teachers. The difference was significant ($p < 0.005$). however, when we compared preservice teachers' performance to in service teachers who graduated from the faculty of pedagogy, there was no significant difference ($p = 0.717$). Moreover, faculty of pedagogy graduate in-service teachers performed better than preservice teachers which shed a light on the importance of teachers' specialization even in elementary classes.

Keywords: fractions, pre-service and in-service teachers, procedural knowledge, representational knowledge

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VIABILITY, FUNCTIONALITY AND EFFECTIVENESS OF CONCURRENT CLASSROOM IN SELECT GRADE 10 AND 12 CLASSES

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The study is conducted to evaluate the implementation of the Concurrent Classroom (CC) modality, a type of hybrid learning modality wherein selected students (n=281) and teachers (n=21) simultaneously experience online and in-person classes on campus. The study examines the design and use of the CC learning modality in terms of the factors of viability (delivery of instruction), functionality (the ability of teachers and students and the learning environment to do or perform the instructional, managerial, and technical procedures), and effectiveness (the performance of students in summative assessments of competencies related to the learning goals). The study uses a quasi-experimental research design to establish the relationships and significant differences between and among variables used in the study. For the qualitative data, the Focus Group Discussion (FGD) results and the classroom observation results are summarized using the Joint Display analysis. Results show that CC modality is highly viable, functional, and effective. Recommendations are focused on improving the CC modality specifically on teachers' professional development, utilization of the different CC modes and strategies, measurement of student learning outcomes. and to conduct further study and evaluation of the CC covering a larger student participants or inclusion of other grade levels.

Keywords: education, e-learning, hybrid, concurrent classroom

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THE IMPORTANCE AND USE OF BLOCKCHAIN TECHNOLOGY INTERNATIONAL PAYMENTMETHODS

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Blockchain technology, which has entered our lives in recent years, constitutes one of the most remarkable issues of the 21st century. According to Merriam Webster, blockchain is defined as; “It is a database with information shared in a digital network that is decentralized and accessible to all stakeholders and can be used at any time”. Looking at this definition, we can clearly understand that blockchain technology is actually a way to store certain information. Today, it can be seen that rapid technological developments in cryptocurrency techniques are an effective measure against security vulnerabilities such as hacking, and theft encountered in the realization of fund transfers. The reason behind this is that the underlying blockchain technology of cryptocurrencies filters out duplicate and incorrect transactions. The emergence of cryptocurrencies as a payment system along with these conveniences has brought debates in traditional financial transaction markets. This means that conventional financial institutions face risks and threats from the popularity and effectiveness of cryptocurrencies. Today, when we look at it, we see the state or state structures – such as Central Banks – that guarantee the reliability of currencies in traditional currencies. The most important feature of the digital currency is that it does not have this central structure and does not have any authority to affect the currency.

Keywords: blockchain technology, international payment methods, digital currency

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SITUATING SCIENTIFIC LITERACY WITHIN THE CONTEXT OF A PANDEMIC

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Society has increasingly looked upon science education to prepare the public for Industrial Revolution 4.0, as scientific reasoning and practices can hone 21st century skills, including scientific literacy. However, the COVID-19 pandemic has changed how science is taught and learned. Hence, this mixed method study seeks to determine if there would be a significant increase in scientific literacy among undergraduate students after taking a six-week online course offered during the first year of the pandemic as part of their science education. It also aims to examine which aspects of the course offering students attributed, if any, their scientific literacy. Using a one-tailed paired sample t-test ($\alpha = 0.05$) to compare the Global Scientific Literacy Questionnaire scores of 67 undergraduate students surveyed at the start and end of the online course, this study demonstrated a significant increase in their scientific literacy despite the constraints brought by the pandemic ($p = 0.03$). Specifically, these students became better at systematic thinking and information management ($p = 0.01$) as well as self-directed planning and monitoring ($p = 0.02$). A focus group discussion with five students revealed that course design and the nature of remote learning could explain the gain in their scientific literacy.

Keywords: scientific literacy, science education, Industrial Revolution 4.0, COVID-19 pandemic, quality education

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AN IMPRESSION THAT LASTS: ASSESSING THE IMPACT OF CO-CURRICULAR SERVICE-LEARNING IN CHEMISTRY

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Co-curricular service-learning has increasingly attracted participants from students as it can enrich their experience of learning chemistry, among others. An example is Kimikamahika, wherein chemistry students from a Catholic university in the Philippines volunteer in public schools, orphanages, and local organizations to promote interest in chemistry among children by demonstrating eye-catching experiments. However, studies are limited on the lasting impression of co-curricular service-learning among students compared to their peers without such community engagement. Hence, this mixed-method study aims to assess the long-lasting impact of Kimikamahika on its past volunteers vis-a-vis their peers not part of this service-learning in terms of gains in course-related skills, leadership skills, community engagement, career opportunities, and real-world application. A one-tailed Mann-Whitney U Test ($\alpha = 0.050$) of the survey responses revealed significantly higher ratings given by 54 volunteers of Kimikamahika in the acquisition of course-related skills ($p = 0.033$), participation in community engagement ($p = 0.013$), and application of classroom learning to real-world situations ($p = 0.045$) against the ratings of 24 peers not involved in this service-learning. A thematic analysis of interviews with nine past Kimikamahika volunteers further showed the lasting impression of a co-curricular service-learning on their academic, personal, professional, and civic life.

Keywords: chemistry, higher education, service-learning

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THE LAST FIVE YEARS OF DIGITAL LITERACY IN VOCATIONAL HIGHER EDUCATION: MAPPING THE TRENDS USING BIBLIOMETRICS DATA

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The term “digital literacy” has been thoroughly being a concern in many aspects especially since the escalation of COVID-19 cases. There were many of the previous research investigating about the digital literacy in secondary education and higher education, but it is still scarce to find the research overview using bibliometrics analysis relevant to digital literacy in vocational higher education. This study aimed to identify the general overview of digital literacy in vocational higher education level examined from the author keyword Co-occurrence, Co-authorship based on authors and countries, Bibliographic coupling (citing sources) and Co-citation (cited sources). The study used a quantitative research approach by utilizing bibliometrics analysis method. The process of bibliometric analysis began from mining the dataset from Scopus using the constructed keywords. The tools designed for this study were Openrefine, VOSviewer, Scopus graphics, Tableau Public and Biblioshiny. The significant findings portrayed that the term digital literacy was highly increasing since the last ten years. It was because of the development of e-education and innovation in digital learning environment. Furthermore, digital literacy has been concerned due to the COVID-19 outbreak from 2019 to 2021. As the COVID-19 decreases in 2022, further research is starting to concern with the preparation of continuous competence of teachers in mastering digital literacy from intermediate to advanced. Referring to the keywords’ co-occurrence, the continuing sustainable digital literacy of teachers was developed by training program.

Keywords: digital literacy, vocational higher education, higher education, bibliometrics analysis

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CULTURAL SUITABILITY OF USING YEAR 5 IMPORTED TEXTBOOKS ON MALAYSIAN PRIMARY PUPILS: PILOTING AN INQUIRY ON PERCEPTION AND ATTITUDE

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The adoption of the Common European Framework Reference (CEFR) as a guideline in Malaysian English language education has led the Ministry of Education to replace locally-developed English textbooks with a selection of imported titles. While considering the significance of intercultural skills in the English curriculum, there is a need to look into the aspect of relevance in using imported texts to suit local cultural demands. This pilot study is dual focal in nature; it investigated not only the impacts of cultural elements embedded in imported textbooks on Malaysian students' attitude but also gathered their perception on the aspect through survey research. For the purpose of this study, it specifies on the use of English Plus 1 – an imported textbook, published by Oxford University Press. A questionnaire which was adopted from Xiao (2010), was then distributed to 39 Malaysian pupils of suburban Chinese-type primary schools in Perak who were selected using a convenience sampling technique. The findings indicated that English Plus 1 impacted pupils' attitude where it was observed that their perception towards learning English became more negative due to the focus of the textbooks inclines towards a culture that was not familiar to the Malaysians. The implications derived from this study suggest for teachers' flexibility at adopting a range of teaching approaches that might also need to be creative in its nature in order to impart cultural information to the young learners. Simultaneously, a more pro-active solution could be taken at the administrative level by carefully scrutinizing over the cultural elements embedded in imported texts to adopt cultural suitability for young learners.

Keywords: cultural elements in textbooks, ESL textbooks, learners' attitude and perception, local and international culture in second language learning, primary school pupils

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GREEN CAPACITED VEHICLE ROUTING USING CORONA VIRUS OPTIMIZATION ALGORITHM

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The last years were known by the appearance of new consumption patterns with new actors. A good example of modern consumer requirements can be the shipping with additional time, cost and quality specificities. On the other hand, environment respect become one of the scheduling concerns. This paper aims to resolve the Green Capacited Vehicle Routing (GVRP). The problem is a branch of green logistics, which refers to vehicle routing problems where carbon dioxide-equivalents emissions are explicitly taken into account. A recent swarm optimization called Coronas Virus Optimization algorithm is discretized to this combinatorial problem. The basic binary algorithm models how the virus spreads and how it infects healthy people. Rapid spread results in sizable population of infected people who may survive, pass away, or transfer the quarantine. The population first increases exponentially but subsequently declines as a result of mortality rates, cure rates, and quarantine procedures. In this work, a solution or an artificial infected person in the algorithm population is the probability to assign a truck to a delivery. Experimentations results on a customized CVRP benchmark adding CO₂ emission coefficients to heterogeneous vehicles shows that the proposed algorithm can give feasible scheduling. The workload is well balanced when assigning trucks and the vehicle routing total distance and pollutant emission are efficiently reduced.

Keywords: vehicle routing problem, metaheuristic, local search, coronas virus optimization algorithm, environment, CO₂, distance

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IDENTIFYING FACTORS THAT INFLUENCE MEDICAL TOURISTS' PERCEPTIONS OF SATISFACTION AND THEIR INTENTION TO REVISIT MALAYSIA'S HOSPITALS

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Cognitive model of the antecedents and consequences of satisfaction decisions in Malaysia medical tourism context cannot be ignored by applying the concept to become a new scope of a marketing strategy to increase and integrate medical tourist revisit interest to Malaysia. Objectives include (a) investigating the factors that influence medical tourists' perception on satisfaction in their intention to revisit Malaysia's hospitals; (b) determining the relationship between perceived value, perceived authenticity, and destination image in relation to the perception of satisfaction; (c) investigating if employee attitude has an indirect effect on perceived satisfaction towards revisit intention; (d) proposing the moderation role of perceived satisfaction in the relationship between the extended factors (perceived authenticity, perceived value, and destination image) of continuity and medical tourist revisit intention; and (e) to validate the extended determinants of the medical tourists' revisit intention model in the context of Malaysia. All suggested paths based on previous related studies This study adopted a quantitative research method, data will be collected through a survey questionnaire. SEM – PLS will be used to analyze the collected data. The study sample will be selected based on a probability sampling that focuses on medical tourist's that have visited Malaysia medical hospitals. The study is expected to pave opportunity to expand previous studies by exploring the moderating role of satisfaction in the relationship between employees' attitude, perceived authenticity, perceived value, and destination image towards medical tourist intention to revisit.

Keywords: medical tourism, revisit intention, perceived satisfaction

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**PREDICTING ACADEMIC DISHONESTY BASED ON COMPETITIVE ORIENTATION AND
MOTIVATION: DOES LEARNING MODE PLAY A ROLE?**

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Previous studies suggest that competition and motivation are reliable predictors of academic dishonesty. However, little is known about the role of learning mode in the relationship among variables. Some studies have found that online learning is more prone to academic dishonesty, but others have found the opposite. This study focused on academic dishonesty, how it relates to competitive orientation and motivation, and how that differs depending on two class modes (online vs onsite). This study was conducted in Indonesia during early 2022, transitioning from online learning due to the Covid-19 pandemic to normal-onsite education. A total of 404 university students participated in this study. Most participants (74.2%) reported they cheated more frequently in online than in onsite learning. The result of structured mean modelling analysis indicated that students in the online learning group showed higher academic dishonesty than students in the onsite learning group. Multi-group latent regression analysis showed that amotivation and hypercompetitive orientation are significant predictors of academic dishonesty. However, the predictive power of those variables differs in online and onsite learning groups. These findings imply that transitioning from onsite to online learning during the pandemic negatively affected academic integrity.

Keywords: academic dishonesty, hyper-competition, motivation, online learning

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CHANGING THE SUCCESS PROBABILITY IN COMPUTERIZED ADAPTIVE TESTING: A MONTE-CARLO SIMULATION ON THE OPEN MATRICES ITEM BANK

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One of the most substantial advantages of the Computerized Adaptive Test (CAT) over linear tests is that it provides more precise estimates with a shorter test. The CAT algorithm selects the items with the maximum information, typical items with a 50% probability of being answered correctly. However, this item selection may not be optimal from the examinees' perspective. Examinees may feel the test is too hard if they only answer 50% of the items correctly, which might result in a negative test experience. Researchers discovered that changing the item selection algorithms to choose easier items (i.e., success probability > 50%), albeit not optimum from a measurement efficiency standpoint, would provide a better experience. The current study aims to examine the impact of changing the success probability on measurement efficiency. A Monte-Carlo simulation was performed on the Open Matrices Item Bank. A total of 1200 examinees were generated and divided into four groups. Each group was assigned to one of four item selection methods with the expected success probability of administered items of 50%, 60%, 70%, and 80%. The results indicate that CAT is 15-35% shorter than using random item selection. Altering the success probability does not affect the estimation of the examinee's ability. Increasing the probability of success in CAT only slightly increases the number of items required to achieve specified levels of precision. Practical considerations on how to maximize the trade-off between examinees' experiences and measurement efficiency are mentioned in the discussion.

Keywords: adaptive testing, easier cat, IRT, Open Matrices Item Bank, test-taking experience

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GAMIFICATION USING LABYRINTHS AND MAZES TO LEARN BIOMOLECULE'S NOMENCLATURE OF BIOCHEMISTRY IN CHEMISTRY DEGREE

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Gamification is a very useful technique, that has been fully increasing in the last years. During the CoVid19 pandemic, our innovation teaching group sent to our students several games, that were used by them for self-studying. Considering that many numerical problems can be proposed in Biochemistry, rather than numerical games (sudoku, adding and subtracting number games, ...) word games were preferred to learn biomolecule nomenclature. Among these word games, we adapted to Biochemistry: connecting dots, mazes, labyrinths, matching two sets, amidakuji, logic games, crossword puzzles, word search puzzles, knight's tour games or anagrams. In this work, we present several games related to mazes and labyrinths. Connecting dot games were adapted to Biochemistry by using intermediate metabolite of a pathway instead of numbers to develop a picture when connecting the dots. Anyway, as pathways don't contain a big number of metabolites, no difficult pictures can be used. Thus, a labyrinth with questions and answers and letters connecting questions with answers can be used. Correct answers can develop the letters of a biomolecule. Other kind of labyrinth can be those where the letters can be taken from the shortest route. Mazes can also be used to develop a word following several mazes from separated letters to get the word, as an anagram. Several examples are shown hereby, adapted for Biochemistry students of Chemistry degree.

Keywords: games, labyrinth, maze, biochemistry

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THE DEGREE OF STUDENTS COMMITTEMENT TO VIRTUAL LECTURES

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The coronavirus pandemic has forced the world to change education policies in educational institutions. For example, Jordan's Ministry of Higher Education has allowed courses in academic programs to be taught in three types of education: distance e-learning, blended education, and traditional education. Hence this study came to reveal students' behaviors during virtual lectures. The researcher used the descriptive method, the sample consisted of (96) students from Shobak University College. The results of the study show that (68%) of students are committed to attending e-lectures fully and following up with teachers for a full explanation of lectures, (13%) are Commitment to attending without focus, (10%) Log in and get busy with something else, (7%) Make sure to attend some of the lectures, and (2%) Others attend lectures about me. Results on preferred learning patterns showed that (37%) of students prefer a face-to-face education pattern, (32%) of students prefer full e-learning, and (31%) of students prefer Blended education. Results of Students' focus on virtual lectures, 43% full lectures, 10% (10 minutes or less), 12% (11-25 minutes), 20% (26-40 minutes), and 15% (41-60 minutes). Result of Reasons for students' lack of attendance and focus during virtual lectures, (44%) there are no reasons, they attend all lectures, (18%) There is no internet and computer or smart device to be able to attend the lectures, (16%) There is no special place at home prepared to attend the lectures, (15%) Preoccupation with other work, and (7%) They lack the motivation to attend the lectures.

Keywords: virtual lectures, behaviors of university students

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DATASET OF CHINESE LANGUAGE BEGINNING LEARNERS READING SPEECH AND TEXT-TO-SPEECH

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Three categories of audio recordings, a web service platform, and commercial software were involved in the analysis process. The three categories of audio recordings included eight filtered student recordings, an audio recording provided by a Mandarin instructor at the University Malaysia Sabah, and an audio recording generated by Text-to-Speech MP3 available at <https://ttsmp3.com/>. All ten recordings will be loaded into the wave pad sound audio editor to build a spectrum image, which will allow for a comparison to identify differences in tone reading, emotion reading, etc. Download the wave pad sound editor from <https://www.nch.com.au/wavepad/index.html>. All mandarin language beginners and their teachers can benefit from this information. Teachers and beginning-level Mandarin language students could utilize the data for comparison purposes. Researchers may find the reading characteristic or style of Malaysian Mandarin fascinating. With this knowledge, they can undertake a pilot study. Suggestions for investigating human and machine reading from a number of vantage points. This data set can also be used to analyses reading speed, and while some students read it in an extremely formal fashion, others did not. It serves as an indispensable beginning point for spectrum, voice wave, and reader behavior research.

Keywords: wavepad sound editor, teaching, Chinese language, spectrum

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THE IMPORTANCE OF EDUCATION FOR DEMOCRACY

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A democratic government, whose power belongs to the people, serves all its citizens equally and protects their natural rights. Its highest priority is to treat and serve its citizens properly and fulfill their interests. In democratic regimes, conflicts and other social issues can be resolved through dialogue, compromise, and consensus between the government and people of a given country to have a better future. In a democratic society, civic education plays an important role in shaping people's values and behaviors, and it cannot be achieved without a stable and developed economy. However, the interest of the human society in education dates back to the dawn of civilization in ancient Greece, when Plato spoke about the importance of education in the development of the state. And, based on his initiative, he wrote at the entrance of the Academy, "Do not go inside unless you are a geometer." Plato's concept of geometry is used to understand a man with a high cultural and scientific level. Thus, the European Enlightenment based on Platonic concepts of education gave it the role and place it deserves among all the professions that develop and civilize people. In ancient Greece, education was not valued as a luxury for a small number of people in the society, but as a right of all citizens. However, in order to achieve the practical goals of education, human society needs to regard it as the most important tool for its development. Therefore, this paper discusses the significance of education in the development of society by enriching it with modern philosophical concepts. The following issues will be addressed: The philosophical essence of education. Education for democracy as a social requirement. The importance of intercultural and multicultural education.

Keywords: education, school, democracy, society, philosophy

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A PHILOSOPHICAL APPROACH TO CRITICAL THINKING AND CONFLICTS

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Conflicts are regarded as one of the most fundamental phenomena of the human being and an essential component of its existence. They have appeared in people's life against their wishes. Moreover, conflicts as social phenomena are as old as mankind and human society. Their existence in social life has transformed them into universal and objective phenomena that exist despite of our attitudes and understanding. These characteristics are imposed on man so that he can learn about their enduring nature for the sake of life and progress. Philosophy and critical thinking offer new concepts for conflict management and transformation. Thus, critical thinking offers a new conceptual approach to dealing with conflicts in human society. The essence of critical thinking is philosophers' ideas and points of view for a rational and reasoned approach to conflicts. The goal of this paper is to influence and educate people about a dialectical attitude toward the importance of critical thinking in recognizing, understanding, and managing conflicts in society.

Keywords: critical thinking, conflict management and transformation, communication, philosophy, human society

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PECULIARITIES OF E-LEARNING IN THE FORMATION OF KAZAKH PATRIOTISM IN ADOLESCENTS ON THE BASIS OF NATIONAL VALUES

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This article discusses some features of online learning in a personality-oriented aspect in the system of formation of Kazakh patriotism of adolescents on the basis of national values within the scientific project "Scientific and methodological foundations for the formation of Kazakh patriotism among adolescents on the basis of national values", funded by the Abai Kazakh National Pedagogical University since the beginning of 2022. A new understanding of the main scientific categories (learning activities, learning environment, learning tasks) in the conditions of modern technologized education is clarified. The diagnostic tool included one questionnaire, developed by the research team to identify the degree of awareness, personal attitude of teaching staff to the problem of patriotic education of young students and, accordingly, the level of quality of work to develop the desired personal characteristic in them. The author's questionnaire "Ideas about Kazakh patriotism" was validated by a specialist. The sample consisted of 106 respondents in random order, regardless of the age and pedagogical experience of the participants, as well as the academic disciplines taught. Of the presented 15 questions of the questionnaire (1, 5, 6, 7, 8, 9, 10, 11, 13, 14, 15) when rounded gave a value of 0.7 (Cronbach's Alpha: 660927 and Standardized. Alpha: 669767), which corresponds to the required norm and confirms the validity and reliability. The result of the study is also the highlighted relationship of patriotism with the formed level of spiritual and moral culture and social experience of the individual, underlying civic behavior. Highlighted as a result of observation, as an initial method of empirical knowledge, psycho-pedagogical, methodological features of e-Learning at present will allow teachers and students to adjust their activities in time to achieve their goals in the system of learning the formation of Kazakhstan patriotism based on national values.

Keywords: modern conditions of learning, person-centered learning, technologization of education, distance learning, e-learning, youth education, national values, patriotic education, Kazakhstani patriotism of teenagers

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INVESTIGATION OF 6TH GRADE STUDENTS' COGNITIVE STRUCTURES TOWARDS THE CONCEPTS OF BARCODE, BANDEROL, PATENT, PIRACY, R&D AND COPYRIGHT

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Concepts It is where the foundation of scientific knowledge and thought structures are laid. Thanks to concepts, distinctions or generalisations about an event or an entity are formed and thought structures are formed in our minds. In this study, it was aimed to determine the associations in the minds of secondary school 7th grade students about the concepts of barcode, bandrol, patent, pirate, piracy, R&D, copyright in the 4th unit of the 6th grade social studies textbook and to determine the existing misconceptions. In order to determine the cognitive structures and misconceptions of the students, scanning technique was used as a method. The participants of the study were 60 7th grade students studying at Nazmiye Demirel Secondary School in Isparta city centre in the 2022-2023 academic year. After this test was applied to the students, the words obtained based on the concepts were analysed in detail and then a frequency table showing the frequency of repetition of these words was prepared. Based on the frequency table, cut-off points were determined and concept networks were created. According to the results of the research, when the frequency of association of the concepts in the minds of the students was analysed, it was determined that the key concept that produced the most words was the concept of piracy with 269 words. As can be seen from the table, it was also determined that the most misconceptions existed in the words evoked by this keyword. As a result of the research, it was determined that the keyword with the least number of words produced was the concept of bandrol with 143 words. It is predicted that students have both misconceptions about the concept of banderole and learning deficiencies due to insufficient associations.

Keywords: word association, social studies

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ASSESSING ESL UNIVERSITY STUDENTS' METACOGNITIVE ONLINE READING STRATEGIES

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Extracting information through online reading has become second nature to ESL students in higher institutions. Although online reading is indispensable among ESL university students, they lack the ability to read effectively. The present study examines students' metacognitive online reading strategies and how those strategies reflect understanding of scientific online reading materials for academic purposes. This was conducted through an online survey and semi-structured interviews. Data were collected among 55 university students enrolled in various Science and Technology courses. Out of the same sample, ten students were selected to participate in the interviews. Data were analyzed using descriptive statistics and thematic analysis with the use of SPSS and NVivo respectively. Thematic analysis was validated using inter-rater reliability analysis through Cohen Kappa analysis that yielded substantial results, indicating that the findings were reliable. Although the findings from the survey revealed that problem-solving strategies were used mainly by students, semi-structured interviews found contradicting results where support reading strategies were believed to reflect understanding by students. Implications that can be drawn are two folds. Students are motivated to use metacognitive online reading strategies depending on the type of texts; two, the need to use different reading strategies to elicit purposeful information based on the subject matter.

Keywords: metacognitive online reading strategies, university students, English for science and technology

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**UNDERGRADUATE OCCUPATIONAL THERAPY STUDENTS' EXPERIENCES IN ONLINE
DISTANCE LEARNING FOR SKILLED-BASED SUBJECTS DURING COVID-19 PANDEMIC:
A DESCRIPTIVE PHENOMENOLOGICAL STUDY**

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COVID-19 hugely impacted the students' learning, in which experiential learning was not allowed to be implemented to decelerate the spread of the virus. Thus, educators used whatever capacities and abilities they had to ensure that the students learned the skills, especially for certain skill-based occupational therapy subjects. However, studies regarding occupational therapy students' viewpoint of their real-life experiences in learning skill-based subjects via online distance learning (ODL) were lacking in number. Therefore, a descriptive phenomenological study was used to describe occupational therapy students' personal experiences in studying skill-based subjects via ODL during the COVID-19 pandemic. Ten undergraduate occupational therapy students were interviewed, ranging from 45 to 60 minutes on their experiences learning skill-based subjects via ODL. The essence of the students' experiences was described in four main themes: the impacts of COVID-19, adapting to the COVID-19 outbreak, the downside and upside of learning skill-based subjects via ODL and perceived supports. Even though they struggled to learn the skill-based subjects without hands-on face-to-face sessions, occupational therapy students felt that few strategies effectively enhanced their learning experience during the period. This study concludes that occupational therapy students formed impactful memories and described their struggles with online distance learning since the transition to ODL was sudden during the pandemic. Thus, this experience highlights a few learning strategies educators can adopt when it comes to skill-based occupational therapy subjects.

Keywords: occupational therapy education, online distance learning, COVID-19, case-based learning, skill-based

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DETERMINATION OF COGNITIVE STRUCTURES OF SECONDARY SCHOOL STUDENTS ON ACTIVE CITIZENSHIP THEME IN SOCIAL STUDIES COURSE

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Students' learning and retention of academic content in a meaningful way depends on strengthening their cognitive structures. Once this structure, which provides a framework in which new knowledge will be included, is ascertained, engaging in teaching activities can create an opportunity for learners to have a different learning experience. Word association test are very functional in revealing the networks between the cognitive structure of the students and the concepts in this structure. The aim of this research is to reveal the cognitive structures of secondary school students who take social studies course towards the concepts in the unit of “active citizenship”. In the research conducted in the survey model, the word association test was used as a data gathering tool in the study. As a result of the research, it has been observed that students mostly associate the concept of institution with school, organization with country, management with presidential, involvement with vote, and active citizen with mindfulness.

Keywords: social studies, cognitive structure, word association test, active citizenship

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SECONDARY SCHOOL STUDENTS' COGNITIVE STRUCTURES ON THE CONCEPTS OF GOOD SCHOOL AND GOOD TEACHER

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The aim of this research is to reveal the cognitive structures of secondary school students regarding the concepts of "good school" and "good teacher". The survey model was used in this study. The data have been gathered through word association test. The study group of the research consists of 162 secondary school students studying in two different schools (state-private) in Isparta province between 2022 and 2023. According to the research result, it has been observed that students mostly associate the concept of good school with clean, teacher, lesson, student, achievement, environment, and education. On the other hand, the concept of good teacher is associated with the words polite, lesson, love, entertainment, discipline, and information. It was revealed that the students made connections between the concepts of good school and good teacher with the words respect, achievement, discipline, moral, helpful, and student. Finally, when the words associated with the concepts of good school and good teacher are examined by public and private secondary school students, it is understood that the cognitive structures of the students in the two school types are similar.

Keywords: good school, good teacher, cognitive structure, word association test, secondary school students

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AN IMPACT OF IT INFRASTRUCTURE CAPABILITY AND IT PERSONNEL CAPABILITY ON INNOVATION CAPACITY: AN EMPIRICAL EVIDENCE FROM INDIAN FINANCIAL SECTOR

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Information technology levelled the playing field and welcomed new competitors to take a cut of the financial sector's earnings. This study investigates the relationship between IT Infrastructure capability and IT personnel capabilities on innovation capacity in order to optimise resource allocation for the development of information technology (IT). In this study, a research model is developed to show how the technical, behavioural, and business skills of IT staff relates to IT infrastructure capability, and how those latter skills relate to innovation capacity. A poll of 435 IT professionals working in the IT departments of banking and financial services companies would be done online as part of the study. Partial least squares (PLS) based structural equation modelling with SmartPLS 2.0 would be used to conduct the empirical analysis. We contend that infrastructure-related capability, such as flexibility and integration, are essential for businesses to increase their capacity for innovation. The findings will show that infrastructure competence has a significant favourable impact on the skills of IT staff. Additionally, infrastructure competence influences IT organisations' capacity for innovation in a favourable way. Last but not least, there is a large indirect impact of infrastructure flexibility on innovation capability. Overall, even if innovation capacity is a critical factor in a bank's ability to perform better than its competitors in the future and flexible infrastructure is a vital enabler of IT and IT staff members' skills are essential for banking innovation. This study offers a fresh viewpoint for comprehending information technology in both theory and practice.

Keywords: innovation, digital transformation, banking, financial services industry, fintech, infrastructure flexibility

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CONCEPTIONS OF PORTUGUESE SCIENCE TEACHERS ABOUT THE CONCEPT OF ECOETHICS

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Ecoethics is a philosophical subject that studies the moral relationship of human beings concerning the environment and its non-human components. Education for ecoethics addresses issues of how to live, how to make environmental choices, and how to think about the consequences of human activities, thus being able to contribute to the resolution of environmental problems. It is important that, firstly, the concept of ecoethics is clear to all involved, including teachers and students. The term ‘concept’, originating from the Latin *conceptus*, means “thing conceived” or “formed in the mind”. Studies with future teachers show that they mostly define ecoethics as the exploration of moral relationships between humans and nature. Knowing that teachers’ conceptions strongly influence their practice, as they inform how they perceive, evaluate, and act towards a certain phenomenon, and since no studies with teachers in active service were found, it was considered pertinent to investigate the conceptions of Biology and Geology teachers about the concept of ecoethics. To collect this data, a questionnaire was applied at a national level, which had an open-ended question. Categories of analysis were defined a priori and then classified the responses based on those categories. The main results show that: most respondents define ecoethics as ethics applied to the environment; almost a tenth relate the concept to issues concerning the preservation of life or the quality of life. It was also found that the respondents tend to position themselves in the environmental anthropocentric matrix. Further studies should be done, to clarify the present study so that more effective education for ecoethics can be done. Given the influence of teachers on students, a focus on teachers training in ecoethics is essential as a starting point for an effective approach to ecoethics issues that can contribute to solving environmental problems.

Keywords: concept of ecoethics, education for ecoethics, science teachers’ conceptions

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FORMATIVE NEEDS OF PORTUGUESE SCIENCE TEACHERS IN ECOETHICS

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The environmental balance has been constantly affected by anthropocentric actions. This recognition leads to an awakening of environmental awareness with a view to the (re)integration of Humankind into nature. To this end, it is important to broaden the traditional domain of ethics by giving more relevance to its environmental aspect. This ethical relationship of human beings with the environment, which seeks to delineate their moral obligations towards environmental concerns, defines ecoethics. Education for ecoethics is, in this context, relevant, as it promotes reflection and potentiates decision-making regarding the consequences of human activities. For teachers to be able to educate students for ecoethics, they must have adequate training in the field. In this scope, studies show that teachers consider their training in ecoethics: insufficient, both conceptually and methodologically; sometimes of inadequate quality; enhances their awareness of environmental issues. Thus, it was felt necessary to investigate the eventual formative needs of Biology and Geology teachers, who lecture in public schools in continental Portugal, on subjects related to ecoethics. For data collection, a questionnaire was applied at a national level, with closed and open-ended questions. The main results show that: most of the teachers did not cover topics related to ecoethics in their initial teacher training, although they consider that these issues should be addressed in this context; the group that mentioned having covered issues related to the subject in this context describes that these were usually addressed through an oral presentation; most of the teachers reported not having done continuing training in the field of ecoethics. Further studies should be done, to deepen the present study, in order to motivate more effective teachers' training in ecoethics, so that, this effect can be replicated in students, future decision-makers.

Keywords: ecoethics, education for ecoethics, science teachers' formative needs, science teachers' training

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TEACHING AVIATION ENGLISH: THE SWEET AND THE BITTER

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The development of aviation industry after COVID-19 pandemic triggers aviation institutions to improve their courses including English courses. A teacher who teaches Aviation English must play an important role to adapt the teaching style according to the students' needs. This paper was aimed to explore the experience of teachers in teaching Aviation English to the students from aircraft maintenance program. The participants were three English teachers from three different aviation schools in Malaysia. Through a fully qualitative study, semi-structured interviews were conducted, and the data were analysed thematically using ATLAS. Ti software. The results revealed that they faced both successes and challenges in teaching Aviation English which were classified into three areas- opportunities, feelings and progress. The subthemes for successes were seizing opportunities, positive feelings and good progress, while missing opportunities, negative feelings and slow progress were the subthemes for challenges. For seizing opportunities, it referred to the participants managed their teaching tasks, while positive feelings referred to their teaching's satisfaction, students' feedback and enjoyed the learning process. The subtheme of good progress referred to the better improvement among the participants. In the meantime, the subthemes for challenges were missing opportunities, negative feelings and slow progress. It referred to missing support from institutions, limited aviation knowledge and sources, while negative feeling indicated frustrated with the students, technical instructors and not confident with the knowledge that they had. On the other hand, the participants felt slow progress when they have to dealt with different levels of students which involved time consuming and the nature of learning and teaching Aviation English. The findings would help syllabus developers and English teachers able to provide an English course that meet the aviation students' needs.

Keywords: Aviation English, success, challenges, English teachers

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MIRROR, MIRROR ON THE WALL, WHICH SKILLS ARE MOST IMPORTANT IN THE AVIATION WORLD?

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Communication is treated as one of the most important issues in all aviation professions, including aircraft maintenance, where passenger safety is paramount. Employer dissatisfaction with the performance of engineers, including aviation graduates, as communicators in the workplace remains controversial. Therefore, this study was conducted to examine the types and functions of communication skills required in the aircraft maintenance workplace. Twelve participants, consisting of aircraft maintenance technicians and licenses aircraft engineers (LAE), were involved in semi-structured interviews. The data were analysed thematically and managed using ATLAS.ti software. Overall, the results showed there are that written communication is as important as oral communication for aircraft maintenance personnel. There were 7 sub-themes identified in relation to oral communication and 5 sub-themes in relation to written communication. In addition, both written and oral communication are expected to be clear, concise and precise. The identified need for communication skills would help aviation institutions develop solutions to meet the needs of the aviation industry.

Keywords: communication skills, aircraft maintenance, oral communication, written communication

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TYPOLOGY OF CORPORATE SOCIAL RESPONSIBILITY: THE APPLICABILITY OF CSR WITHIN SMES COMPANIES IN DEVELOPING COUNTRIES – THE CASE OF MOROCCO

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This research aims to analyze and evaluate the constraints and factors that prevent the implementation of a CSR principles within SMEs in developing countries and more particularly in Morocco. Morocco has adopted a national sustainable development strategy, in line with its 2011 constitution and its international commitments. This National Strategy for Sustainable Development sets objectives for 2017-2030 and identifies operational measures. It is seen as a continuous process which commits different actors including SMEs to modify their behavior toward integrating socio-environmental components more significantly into their strategic roadmaps. However, recent diagnostic revealed that the ingredients of sustainability are present in most policies, but their application remains insufficient. Among the many obstacles already cited in the literature to the adoption of CSR principles in SMEs, this study focuses specifically on internal variables (employee commitment, strategic decisions, management style and posture of the entrepreneur-owner) and external variables (competition, business opportunities and government incentives) that can influence the application and implementation of CSR in Moroccan SMEs. Results suggest that major factors that prevent the implementation of CSR are employees' awareness, disconnection between organizations' strategy and CSR principles, insufficient financial resources and fear of losing competitiveness. Factors that seem to be less significant in explaining the non-involvement in CSR practices are the size of the organizations, the number of years in business, the number of employees and the annual revenue. Finally, the nature of the industry sector where companies are in (primary, secondary, and tertiary) does not have a significant impact on the non-implementation of CSR practices.

Keywords: corporate social responsibility, sustainability development, mena region, small and medium enterprises

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**DEVELOPING SUSTAINABILITY IN BUSINESS SCHOOLS -THE BEST PRACTICES FOR
IMPLEMENTATION OF PRINCIPLES FOR RESPONSIBLE MANAGEMENT EDUCATION –
RESEARCH RESULTS**

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The beginning of the current decade abounded with numerous corruption scandals and irresponsible behaviors in the world of business which became an inspiration to question the goals, position, and curricula of business schools. Society still perceives higher education in terms of its mission of discovering the truth, developing knowledge, and educating citizens who will make this world a better place for all of us. There is a need to develop practical guidelines and solutions that enable business schools to be more engaged in providing future leaders with the skills needed to balance economic and sustainability goals. The main objective of this paper is to identify the best practices for sustainable development in the world of academia by implementing the Principles for Responsible Management Education. In the paper, the authors present the best organizational and educational practices applied by awarded for the Excellence in Reporting Universities that adopted Principles for Responsible Management Education. The analysis was conducted in terms of over 50 criteria and was based on the recognized Excellence in Reporting Universities' reports from years 2020, 2021, and 2022.

Keywords: sustainable development, principles for responsible management education, higher education

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VOLUNTEERING IN NON-GOVERNMENTAL ORGANIZATION TOWARDS COMMUNITY DEVELOPMENT

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The concept of empowering the culture of volunteering is very broad since this dimension focuses on the development of the community as a whole. The needs of education within the community itself are challenging. "Volunteer" is a global term that is gaining popularity due to its ability to stimulate community participation and get people involved in charitable work that benefits the public. The Movement Control Order (MCO) enforced in Malaysia for three phases from 18th March 2020 to 31st August 2020 following the COVID-19 outbreak has had a big impact on Malaysians. To help the government's efforts, volunteers from various voluntary organisations went to the field to help the community affected by this situation. This concept paper focuses on the roles played by volunteers from non-governmental organisations (NGOs) during the past COVID-19 event. The objective of this study is to explore the issues faced by NGO volunteers in Malaysia when conducting aid missions, help support communities, and develop roles and plans to improve their readiness in the field towards community development in Malaysia. At the same time, the need for educational knowledge about volunteering will also be explored. The scope of volunteering during this pandemic is very broad. A volunteer, particularly one associated with an NGO, can elicit feelings of love in the community. Love should not only be fostered among family members but must go beyond the boundaries to form a harmonious society. All the efforts shown by the NGO volunteers during pandemic COVID-19 have proved that their roles are very important to community development in Malaysia.

Keywords: volunteering, community, community development, COVID-19 pandemic, non-governmental organization, NGO

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THE VALIDITY AND RELIABILITY OF PARENTAL INVOLVEMENT QUESTIONNAIRES AMONG VOCATIONAL COLLEGE STUDENTS IN MALAYSIA

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This study focused on the validation of Parental Involvement Questionnaires (PIQ) for student versions to measure parental involvement among vocational college students. Two aspects of validation are the reliability and validity of PIQ through Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA). There are six domains of parental involvement: parenting, communicating, volunteering, learning at home, decision making, and collaborating with the community. There are 430 samples are selected among the final year students in vocational colleges. Data were analysed using Statistical Packages for Social Sciences (SPSS) and through Structural Equation Modelling, Amos version 22.0. The finding revealed that the measurement model adequately fit with the data collected within a vocational college students' context, which is RMSEA=0.054, CFI=0.927, TLI=0.916 dan Chisq/df= 2.229. The reliability of the instruments ($\alpha=0.933$) and factor loading >0.50 was attained from each item measured. EFA and CFA is a critical process to validate the PIQ for students' versions to make sure it was useful to measure all the domains involved in parental involvement among the vocational college students. Through the reliability and validity resulted from EFA and CFA, we will probably confirm that PIQ for students' version is valid to be used for empirical study.

Keywords: exploratory factor analysis, confirmatory factor analysis, parental involvement, vocational college student

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ORAL AND WRITTEN HISTORICAL SOURCES ON THE EARTHQUAKE AND TSUNAMI DISASTERS IN NIAS ISLAND

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This article describes some historical data or sources that can explain the earthquake and tsunami that occurred in Nias, an island on the west coast of Sumatra in the Indian Ocean. The aim is to uncover sources that contain information that can be used to reconstruct the natural disaster events of the earthquake and tsunami on Nias Island from a historical perspective. As is well known, Nias Island regularly experiences earthquake shocks and sometimes it is also followed by tsunami waves, because the island is located in a disaster-prone area, namely on the Eurasian plate. The writing of this article uses the historical method with a disaster history approach that focuses on historiographical aspects. In over past two centuries, there have been a number of sources which contain the natural disasters of the earthquake and tsunami. These sources can be grouped into two categories, namely oral sources and written sources. Oral sources come from within the Nias community itself while written sources come from outside of the community.

Keywords: earthquake, historical sources, Indian ocean, Nias Island, tsunami

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THE ORIGIN OF SLAVES FROM SUMATRA ISLAND BASED ON RECORDS OF THE SLAVE TRADE BY THE DUTCH VOC IN THE 18TH CENTURY

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This article explains the origins of slaves traded in Batavia and Malacca, which were once the centers of the VOC empire as well as trading ports in the Malay Archipelago in the 18th century. Many people from within and outside of the archipelago were bought and sold as slaves in and out with high intensity during that period. As shown in the results, the northern, central, and western parts of Sumatra island were among the origins of these slaves. The names of these areas today are identical to the names of several ethnic groups residing in that island. Hence, these factors become indicators of slave distribution map in this island. Historical method was employed in this paper by utilizing colonial records in the form of notarial deeds stored in the National Archives of the Republic of Indonesia in Jakarta and bundle of the Malacca Records. All of documents are historical primary sources.

Keywords: ethnicity, Dutch VOC, origin of slave, slave trade, Sumatra

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SYNTHESIZE A CONCEPTUAL FRAMEWORK FOR ATHLETE'S SELECTION WITH DATA FABRIC SPORTS STATISTICAL TECHNIQUE

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The purpose of this research is to present an overview of the conceptual framework of sports statistical data fabric techniques as an approach for using information technology systems for analyzing sports statistical data to develop athletes' potential. This literature review shows that the development of advanced statistical methods for match prediction and selection of athletes by using sports statistical data to analyze the correlation and correlation of the data creates an information system with sports statistics data fabric techniques provide excellent cognitive results. The information obtained is accurate and accurate. From the results of the study, it was born as a new body of knowledge with in-depth conceptual frameworks in sports and scope of information as a basis for development sports with specific characteristics of physical fitness. With the knowledge gained from the conceptual framework, this research can create new norms and knowledge in sports toward the development of athletes to their highest potential.

Keywords: data fabric, decision support system, physical fitness, sports technical skills, sport statistics

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HEPARIN EPIOTOPE IMPRINTED VIA SOL-GEL PROCESS ON SILICA SURFACE: EFFECT OF TEMPLATE: MONOMER RATIO STUDIES

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Heparin, a sulfated glycosaminoglycan (GAG) is one of macromolecule natural compounds and widely used as an anticoagulant drug, anti-thrombotic agent and hemodialysis (patients undergoing kidney dialysis). Since it is derived from animal source, heparin can contain several natural contaminants. Thus, molecular imprinting technology is introduced for purification and separation of heparin. An epitope extraction was implemented consist of low molecular weight heparin (LMWH) as template to capture large molecule of heparin which prepared by sol-gel process on the surface of macromolecule silica using 3-aminopropyltriethoxysilane (APTES) and tetraethoxysilane (TEOS) and functional monomer and cross-linker respectively. Here, the effect of template: monomer ratio was evaluated and result shown that the (1:2) ratio of template to functional monomer successfully adsorb and enrich the heparin protein. The imprinted polymer was characterized with Fourier Transform Infrared (FTIR) spectroscopy, Thermogravimetric Analysis (TGA), Brunauer-Emmet-Teller (BET) and Field Emission Scanning Electron Microscopy (FESEM). The adsorption behaviours of epitope imprinting indicated that Langmuir-Freundlich (single-site) was considered as the model with better fit and kinetic batch studies showed pseudo-first-order kinetic model via physicochemical process. The results obtained good imprinting comparable of epitope imprinting effect.

Keywords: imprinted polymer, heparin, sol-gel

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TOWARDS DIGITALLY INCLUSIVE COMMUNITY IN SRI LANKA: THE ROLE OF DIGITAL LITERACY

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Over the last two decades, the proliferation of the internet and the revelation of many related digital technologies have fostered people to learn and engage with both digital and internet skills. Therefore, digital and internet skills have become two primary components of digital literacy and digital inclusion. The main purpose of this study is to explore the existing status of Sri Lankan computer and digital literacy based on the demographic and social characteristics of the households and individuals. For this investigation, we use data from the “Sri Lanka Labour Force (SLLF) Survey 2020” conducted by the Department of Census and Statistics of Sri Lanka (DCS) and from annual reports published by DCS. The results reveal that well over 75% of Sri Lankan households do not own a desktop computer or a laptop. This means that the access divide is significantly high in the country. Moreover, this first-level digital divide is even more pronounced in the rural and estate sectors compared to other areas of the country, with the main reason possibly being due to affordability issues. Furthermore, we found nearly 50% of the Sri Lankan population is not digitally literate, and also it is observed that the computer literacy rate is significantly higher at a level of 74% when people were literate in the English language. In addition, we also find that the digitally literate female population is lower than its male counterparts. Another key outcome of this study is that the income level of computer-literate households is significantly higher than their counterparts. The results further reveal that there is an association between computer literacy and employment type and an individual’s employment status. Therefore, it is paramount that the various employment types be aligned with 21st-century skills, including digital skills, to establish an ICT and knowledge-based workforce and society.

Keywords: digital literacy, computer literacy, digital skills, 21st-century skills, Sri Lanka

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DOES THE TYPE OF FEEDBACK USED IN GRAMMAR LEARNING MATTER? STUDENTS' PERCEPTIONS AND IMPACT ON LEARNING

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This study aims to investigate how feedback in English as a Foreign Language (EFL) teaching can improve students' skills in applying grammar in context. Collected by the techniques of documentation, observation and interview, The data were students work sheet, observation sheets, and interview transcript. Student's work sheet, and observation sheets were analyzed to draw the impact of feedback on students learning, while the interviews were analyzed to explore students' perception of the feedback. The interviews were transcribed and read over and over to figure out the critical incidents and to draw a conclusion. This study shows that the application of feedback is considered useful and accommodating students' need for grammar understanding so as it can increase student's comprehension. Moreover, feedback is considered helpful in making students self-identify their mistakes and do self-correction. This indicates an increase in the quality of the learning process and bring implication on the integration of grammar tasks with writing skills.

Keywords: feedback, students' perceptions, learning impact, teaching grammar

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**HIGH-TEMPERATURE STABLE ANATASE PHASE NANOCOMPOSITE
TiO₂/ZnO/SiO₂ SYNTHESIZED BY HYDROTHERMAL METHOD USING
PYRROLIDINIUM-BASED IONIC LIQUIDS**

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Using high-temperature stable anatase TiO₂ for environmental applications such as gas sensors, self-cleaning ceramic tiles, and anti-microbial sanitary wares is essential and still challenging today. To overcome these problems, TiO₂ is combined with ZnO and SiO₂ to form a TiO₂/ZnO/SiO₂ composite, producing TiO₂ material that is effective in the visible light region and has anatase phase TiO₂ which is stable at high temperatures. Nanocomposite TiO₂/ZnO/SiO₂ was synthesized by hydrothermal method at 180 °C for 24 hours using 1-butyl-1-methyl pyrrolidinium salicylate ionic liquids as structuring agent morphology particles. Various calcination treatment was carried out in the temperature range from 450 to 1000 °C. TG-DTA and XRD results showed no anatase to rutile transformation was observed up to 1000 °C. SEM results showed that particle morphology TiO₂/ZnO/SiO₂ synthesized using water has a sphere-like shape while using ionic liquids-water mixture has a nanorod and nanoflower-like shape. TiO₂/ZnO/SiO₂ composites have suitable properties for photocatalytic and self-cleaning applications in the ceramic industry.

Keywords: TiO₂/ZnO/SiO₂, high-temperature stable anatase TiO₂ phase, ionic liquids, hydrothermal method

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MAPPING THE RESEARCH LANDSCAPE OF FALLS IN OLDER ADULTS: A BIBLIOMETRIC ANALYSIS

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Aging is a growing public health concern as falls are the leading cause of unintentional injury in older adults. Thus, this study identifies the main areas and current interactions between falls in the field of older adults and suggests future research directions. Using a bibliometric analysis, we examine a sample of 6815 studies from the Scopus database on falls and older adult research starting from 1842 to 2022. Findings showed the United States was an active country, with 1760 total publications and the Hinda and Arthur Marcus Institute for Aging Research, Boston, MA was a dynamic institution. Three prolific authors in this area were been identified, namely Lord SR from Sydney, Kenny RA, and Stevens JA from the Ireland and United States, respectively. While, the most cited paper was from Tinetti M (1988), with the title "Risk Factors for Falls among Elderly Persons Living in the Community" (cites=4922). The Journal of the American Geriatrics Society was the most active journal. The co-occurrence analysis was used to study to explore topics related to aging and falls. The total strength of the co-occurrence links with other keywords was calculated by the VOSviewer software using the normalization of associations and full counting algorithm. Four major clusters have been discussed related on the topics researched. Although research activity on aging and falls occurs globally, a lack of collaboration exists across country lines, especially between authors of developed and developing countries. Research on risk factors related to falls in the community focusing on balance issues and gait was significantly discussed. However, insufficient attention to the diversity of aging and their individual needs particularly with respect to cultural and socioeconomic factors. We conclude by suggesting two potential research directions related to prevention and focusing on sub-populations of older adults such as those with dementia.

Keywords: bibliometric analysis, falls, older adults, prevention, risk

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ENTREPRENEURIAL DECISIONS AND PROBLEM-SOLVING: A DISCUSSION FOR A NEW PERSPECTIVEBASED ON COMPLEX THINKING

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This work aims to address the importance of innovation in entrepreneurial and business education to ensure students develop the ability to take complex decisions and solve complex challenges. The intention was to incorporate the complexity theory in the process of decision-making and problem-solving in business and entrepreneurship. To achieve this, we present the results of the first phase of our project that aims to scale the levels of complex thinking in university students, to discuss the need for business and entrepreneurship students to develop their complex thinking competence to think critically, systemically, scientifically, and innovatively to understand the complexity of the business environment, analyze the relevance of system elements, apply their inductive and deductive reasoning, and create appropriate and relevant solutions. Our findings suggest that an education model focused on the development of complex thinking, including its four sub-competencies (critical thinking, systemic thinking, scientific thinking, and innovative thinking), can provide entrepreneurs with the ability to integrate a sustainable development perspective, increase their social engagement and critical thinking, develop their imaginative intelligence and discursive and reflective skills, and therefore improve their decision-making and problem-solving processes. In the future, we plan to extend this analysis to the behavior of real-life entrepreneurs.

Keywords: educational innovation, higher education, entrepreneurial decisions, problem-solving, complex thinking, business education, entrepreneurship

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AN EDUCATIONAL ETHNOGRAPHY OF THE DEVELOPMENT OF COMPLEX THINKING: STUDENTS' POINT OF VIEW ON THEIR SELF-PERCEPTION OF ACHIEVEMENT

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The United Nations 2030 Agenda for Sustainable Development and the Inner Development Goals argue that addressing the world's challenges in the 21st century requires people to develop diverse skills. On the one hand, anyone, regardless of age and educational level, can develop multifaceted, transdisciplinary, and integrated competencies to address these challenges. And on the other hand, people must work on skills and other inner qualities relevant to inner growth in efforts to contribute to a more sustainable global society. Latin America is one of the regions in the world with the lowest skills indexes according to the World Economic Forum's Human Capital Index, so it is necessary to invest in human capital through education that articulates new digital, socioemotional, and high-level cognitive skills (including creative thinking, lifelong learning and problem-solving skills). The development of complex thinking competency allows individuals to increase their ability to address problems and challenges in their environment, a necessary skill for any professional. However, little progress has been made in recording the implementation of pedagogies that develop disciplinary and transversal competencies such as complex thinking competency, as well as the results obtained by students in the mastery of this competency. The present contribution identifies the units of analysis for an educational ethnography focused on recording the complex nature of the dynamics of educational systems and at the same time the implications of an educational model based on competencies; in order to explain from the Latin American educational ethnographic studies, the self-perception of students through the application of an instrument that measures the level of achievement of the competency of complex thinking.

Keywords: educational innovation, higher education, complex thinking, Latin American educational ethnography

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MALAYSIAN IN-SERVICE SCIENCE TEACHERS UNDERSTANDING OF NATURE OF SCIENCE (NOS)

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Nature of Science (NOS) has been enumerated as one of the important elements in education (Shuman & Tamir, 1973, as cited in Chen, 2006). This is because robust understanding of NOS is essential for individuals to be considered as scientific literate. Many countries including Malaysia have listed achieving scientific literacy as their educational goals. To achieve this goal, teachers play an important role. Hence, teachers must possess a sound NOS understanding to teach NOS to students. It is clear that one could not teach what they do not know (Sumranwanich & Yuenyong, 2013). However, studies have shown that teachers do not possess adequate NOS understandings but naive conceptions of NOS. This invokes worry as teachers are the key players in instilling accurate NOS conceptions (Jain et al., 2013). When teachers possess naive conceptions about NOS, it may be passed down to their students during science instruction. So far, studies about in-service science teachers' understanding on NOS were conducted in the West. The extensive literature search that was conducted on several renowned platforms such as ResearchGate, Academia and many more, did not yield results to Malaysian in-service teachers' NOS understandings. Moreover, it was found that the existing research available to the public focused on secondary school students or pre-service teachers but not in-service teachers. The conduct of this study bridges the gap in literature and informs relevant stakeholders about the current state of science education in Malaysia. This study shares the findings of a questionnaire conducted with 33 in-service public school science teachers in Selangor, Malaysia. Results show that most teachers possess naive conceptions about NOS. This study has implications on informing relevant stakeholders about the need of including NOS as a part of teacher training programmes and the need to conduct training sessions with in-service science teachers on NOS.

Keywords: Nature of Science (NOS), Nature of Science (NOS) understanding, in-service science teachers

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**GEORGE TOWN FESTIVAL 2022: THE PROMOTION OF ARTS AND MULTI-CULTURAL
HERITAGE IN UNESCO GEORGE TOWN, PENANG, MALAYSIA**

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George Town, the cultural heritage city of the Straits of Malacca was gazetted as a UNESCO World Heritage Site (WHS) in 2008. George Town Festival (GTF) is one of the significant annual events that commemorates the inscription of George Town. The Festival was first organised in 2010. However, due to the unforeseen Covid-19 pandemic in 2020 and 2021, the Festival has been organised virtually. Now in its thirteenth year, the Festival is once again set to gather on a physical stage. The main aims of GTF 2022 are two-fold: (1) to promote the arts and multi-cultural heritage at an international level and (2) to feature at least 40% of local programmes and artists. However, there are claims that the cultural promotions of GTF in regard to the multi-ethnic community is biased, where: (1) the Malay Muslim community are under-represented (2) the representations of GTF is said to be a bit 'too Chinese' and (3) GTF cultural promotions from 2010-2020 have greatly benefitted the Chinese community, leaving other multi-ethnic community under-represented at the Festival. Hence, this quasi-statistical qualitative study seeks to examine the patterns of arts and cultural heritage promotions in regard to the multi-ethnic community at GTF 2022. The findings revealed that the Chinese's arts and cultural promotions at GTF 2022 is highly promoted compared to other multi-ethnic community in Penang.

Keywords: ethnicity, George Town festival, Penang, UNESCO

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HERITAGE CELEBRATIONS 2022: INTANGIBLE CULTURAL HERITAGE PROMOTIONS VIS-À-VIS COMMUNITY IN UNESCO PENANG

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George Town has developed over 200 years. In 2008, George Town was successfully listed as a UNESCO Cultural World Heritage Site (WHS). Since then, many events had been celebrated to commemorate the prestigious inscription of the heritage city. One of them is the George Town Heritage Celebrations (GTHC). GTHC focuses on promoting the intangible cultural heritage (ICH) of the local community in the heritage enclave. While fragile, it is very important to preserve and transmit both knowledge and skills of ICH from one generation to the next. Consequently, numerous researches about UNESCO George Town are focusing on tangible heritage, and the ICH is given less attention. Based on the GTHC 2022's e-brochure, this quasi-statistical qualitative research aims to investigate the promotions of the ICH vis-à-vis multi-ethnic local community in UNESCO George Town WHS, Penang, Malaysia. The findings showed that GTHC 2022 is most likely to promote the Chinese community's ICH.

Keywords: George Town heritage celebrations, intangible cultural heritage, multiculturalism, promotion, UNESCO

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MARGINALISED COMMUNITY IN UNESCO PENANG: A QUALITATIVE METHODOLOGY

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George Town was declared as a World Heritage Site (WHS) on July 7, 2008. Multiculturalism was the main element that secured the respected declaration. The importance of maintaining the heritage enclave's UNESCO WHS title became one of the key objectives that united the stakeholders, that include the state and federal governments, heritage activists, local residents, hotels, to name just a few. The battles to manage the heritage enclave and its community have generally revolved between the state-federal governments; let alone the voices of marginalised group, especially the Malays. Eleven Malay informants were chosen in order to: 1) investigate the patterns of ethnic marginalisation perceived by the Malay community in the heritage enclave and 2) construct the emergent typologies stemming from the meanings of ethnic marginalisation conveyed by Malay community. Generally, this study offers an exploration of ethnic marginalisation in the heritage enclave, by highlighting the qualitative research as the methodology.

Keywords: George Town, qualitative, UNESCO

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ASSESSING THE LEVELS OF KNOWLEDGE OF PERSONAL DATA PROTECTION AMONG STUDENTS IN PERAK MALAYSIA

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Over recent years, the sharing of personal data among students is uncontrolled, especially on the social media networks, resulting in widespread data intrusions that compromise their privacy and confidentiality. Against this backdrop, this study was conducted to identify the level of knowledge of personal data protection among students. This research design of this study was based on a quantitative approach using a survey. The sample study was made up of 133 students at a public university in the state of Perak, consisting of 62 males and 71 females, aged between 17 and 24 years. The research instruments used were based on a survey questionnaire and a set of multiple choice questions to gather information relating to their demographic profile, namely age and gender, and their levels of knowledge of personal data protection. Data were analyzed using descriptive statistics and an independent samples t-test. The former showed that the students' levels of knowledge of personal data protection were moderate, while the latter showed there was no significant difference in the levels of such knowledge between male and female respondents. Given this revelation, it is imperative for all stakeholders to increase the efforts to improve users' knowledge of personal data protection through either the formal education or informal education, the impact of which can help them to be more vigilant in sharing or exchanging data or information that is deemed confidential or personal that needs to be protected from being misused.

Keywords: gender difference, personal data protection, privacy, social media network, education

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INTERNATIONAL COMMUNICATION OF CHINESE COSTUME CULTURE: TAKING CHINESE CHEONGSAM (QIPAO) AS AN EXAMPLE

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Chinese traditional costume culture is regarded as a part of Chinese culture. Inheriting and propagating traditional Chinese costume culture around the world are the missions of the times for the Chinese people. China in the 21st century is infinitely close to the center of the world stage because of its rapid economic growth, which inevitably asks for the corresponding share of international discourse. Therefore, China's external communication should not only be considered in the political and economic aspects but should pay more attention to its traditional culture, which makes it easier to change foreigners' impression of China from the inward. Taking cheongsam (also called qipao) as an example, this paper aims to research the development of Chinese traditional costume culture and to explore the fresh approaches of the international communication of Chinese traditional costume culture under the background of a new era, increasing the international influence of traditional Chinese costume culture.

Keywords: traditional Chinese costume culture, cheongsam, international communication

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AN INITIAL EXPLORATION INTO THE METHODOLOGY OF "TABLE TENNIS-TRANSLATOLOGY"

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"Table Tennis-translatology" is a translatology hypothesis based on the similarities between translation and table tennis sports, with the thought of the Book of Changes as the guidance and medium. With the aim of "translating and introducing China while communicating with the world", it is a discipline that originated from table tennis and translation practice, describes and considers various problems and phenomena in translatology from the perspective of table tennis, and promotes the transcendence and unification of discipline paradigms in the process of breaking discipline barriers between translatology and sports. Inspired by the thought of Tai Chi and Eight Diagrams, and according to the relevant principles and practices of table tennis, the methodology of "Table Tennis-translatology" -- Eight Diagrams Theory emerges as the times require, which explains its ideas of translatology from eight levels: Qian, Kun, Xun, Zhen, Kan, Li, Gen and Dui, and reveals the various possibilities of translation research for global community of scholars to think and criticize.

Keywords: table tennis-translatology, table tennis, translation, methodology

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INTERSECTIONALITY AS A FEMINIST SOCIAL CRITIQUE OF OPPRESSION, POWER, AND AGENCY

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This paper aims to investigate the issue of women empowerment and try to reconceptualize in a feminist perspective the issues of oppression, power, and agency through the methodology of intersectionality and of the analysis of the matrix of domination. According to the intersectionality approach, each woman is embedded in a matrix of domination made of laws and institutions (structural domain), bureaucracy (disciplinary domain), cultural and ideological (hegemonic domain) and influenced by everyday interactions (interpersonal domain). However, woman's capacity to resist, accommodate, act independently or become an accomplice to it depends also on the factors characterizing her singular being: her class, race, religion, marital status, age, nationality etc. Within this perspective there are few pure victims or oppressors for each individual derives varying amounts of penalty and privilege from the multiple systems of oppressions which form everyone's lives. This creates potential for both multiple and conflicting experience of subordination and power that requires a wider ranging and complex terrain of analysis. This paper tries to understand how oppression, power, and agency are related as well as investigating woman's ability to oppose it, make accommodations, take independent action, or collaborate with it. The matrix envisaged within an intersectional analysis builds upon an expanded Foucauldian understanding of power, whose exercise is deeply connected to the production of discourses of truth and moves the theoretical analysis away from a binary conception of power (dominant-subordinate), questioning, at the same time, dominant universalizing truth claims.

Keywords: intersectionality, power, oppression, agency, foucault, feminist social theories

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**FACTORS AFFECTING CUSTOMERS' ACCEPTANCE OF RIGID PLASTIC PACKAGING
DESIGN BASED ON MATERIAL VALUE CONSERVATION PARADIGM**

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Increasing plastic consumption each year has led to growing concern over its waste. There are several ways that has been done in order to reduce plastic waste over the years and one of them is recycling. In Indonesia, plastic recycling rate is low despite the country's high plastic waste production. In order to increase plastic recycling rate, value of rigid plastic packaging post consumption must be maintained as high as possible. Based on material value conservation paradigm, the use of color, glue, ink, and other treatment toward rigid plastic packaging will affect its value. Plastic packaging design based on material value conservation paradigm is used to maximize value of post consumption plastic packaging. However, through observation, most of beverages with rigid plastic packaging in the market do not meet material value conservation criteria. In this article, factors affecting customers' acceptance of beverages with rigid plastic packaging that fulfil material value conservation criteria is studied to encourage the implementation of rigid plastic packaging according to material value conservation paradigm.

Keywords: consumers' acceptance, material value conservation, plastic, packaging, value

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ANALYSIS OF INCREASES IN FERONICKEL PRODUCTION IN INDONESIAN COMPANY DUE TO THE RUSSIAN - UKRAINE WAR

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A number of commodity prices, such as oil and coal, strengthened in line with the heating up of geopolitical tensions between Russia and Ukraine which occurred in early 2022. One of the impacts of this event resulted in an increase in ferronickel production costs at a company located in Indonesia. This company runs businesses related to the mining sector, such as nickel, gold, bauxite and coal. In the process of processing raw materials into products or finished goods that are ready for sale, a company needs to carry out several stages. The production process of processing nickel ore into ferronickel raises costs due to several factors. Factors of production such as raw materials, labor, capital and others are important characteristics in determining the category of a company's production costs. The increase in the prices of crude oil and coal commodities due to the events of the war in Russia and Ukraine had an impact on the fuel usage figures in the cost of ferronickel production. The focus of the issues studied in this article is how big the impact of the existence of the ferronickel commodity sector is on national and global economic, political and social conditions, so that it is expected to be a consideration for the steps taken by companies in reducing production costs to anticipate price volatility, both selling prices and the purchase price of ferronickel raw materials in the commodity market.

Keywords: feronickel production, cost production, mining industry, war

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CHALLENGES TO THE ACQUISITION OF LANGUAGE SKILLS IN NON-NATIVE LANGUAGES. CASE STUDY FOR ALLOLINGUAL SCHOOLS OF THE GAGAUZ COMMUNITY IN THE REPUBLIC OF MOLDOVA

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Multilingual communities are a constant challenge for both non-native language teachers, be it L2 or L3, and students belonging to allolingual communities as well. The particular element regarding the minority communities in the Republic of Moldova is that we are witnessing a phenomenon that is as rare as it is interesting, namely that the status of the mother tongue, respectively Gagauz, is taken over by the Russian language, a language that was granted with the status of lingua franca as long as the Republic of Moldova was an integral part of the Soviet Union, but continued with the same status for a long time even after the Romanian language regained its status as the official language of the Republic of Moldova, together with the state independence in 1990. The major problems that students encounter and that teachers have to overcome in order to keep students motivated in learning non-native languages are closely related to this ambiguity regarding the status of Russian among the other languages they have to learn along their academic pursue. Our research is following review on the status of the languages spoken by the Gagauz minority in the Autonomous Territorial Unit of Gagauzia (ATUG), in the attempt to identify the most suitable approach in favor of Gagauz students that need to acquire language skills in at least four languages, i.e. Russian, Gagauz, Romanian, and English/French/German/Spanish. It is worth mentioning the fact that the conclusions and recommendations presented here are the result of several educational projects carried out since 2011 by the "Dunarea de Jos" University of Galati, Romania, in partnership with the General Education Directorate of ATUG.

Keywords: minority language, motivation, allolingual, language skills

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FROM ANCIENT GYMNASICS TO ONLINE FITNESS TRAINING - EVOLUTION AND PERSPECTIVES IN PHYSICAL TRAINING

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All the activities of the Olympic Movement have been set to promote sport, culture and education with a view to building a better world, having as a starting point and drawing inspiration from the physical training practiced by the ancient civilizations in the Middle East and Asia. From the very first evidence of men's interest in training the body through disciplined exercises, 7000 years ago, the spread of the sport was meant to cultivate the joy found in effort, the educational value of good example and respect for universal fundamental ethical principles, but never until the coronavirus pandemic did people feel the importance of exercising and playing sports so acutely. The present study analyzes the alternatives offered by sports trainers, in general, and fitness coaches, in particular, during the lock-down period and highlights the positive, long-term aspects, as well as the evolutionary and revolutionary steps taken towards the diversification of physical training programs in accordance to a large variety of the public. If ancient gymnastics involved only athletes, we currently observe a tendency to identify the movement needs of people according to age, ailments, the body's ability to withstand effort, etc. The modern trend is to design and customize training according to one's needs, and online training programs are well suited to successfully accomplish this mission. Therefore, we are going to prove here the importance of online fitness apps for the continuing education of mind and body together with the perpetuating of Olympic principles in education.

Keywords: education, fitness, evolution, sustainable effort, coach

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ANALYSIS OF SYMMETRIC TIMETABLE FRAMEWORKS BASED ON UNFIXED 4-BLOCKS

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Fixed frameworks called modules are often used in order to easily avoid conflicts among curriculum courses when scheduling timetables at many universities. This paper proposes a novel approach for the timetable frameworks by introducing symmetric timetable modules based on unfixed 4-blocks, which will be refined as fixed 3-blocks and potential 1-block. We show that the unfixed 4-blocks are superior to the traditional fixed 3-blocks without any loss from the viewpoint of consumers. Our operational strategies based the concept of unfixed 4-blocks provide many advantages including both flexibility and controllability at the same time when timetables are scheduled. Although the method theoretically can reduce the upper bound of space utilization to 75% in the worst case from the viewpoint of suppliers, we argue that it is not a critical issue in practice, because the practical space utilization is desired to be typically lower than 75% in order to get the reasonable space idleness, and furthermore, the upper bound can be increased much larger when multiple school years use multiple spaces.

Keywords: timetable frameworks, modules, potential block, symmetry, flexibility, controllability

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THE ATTITUDE OF MALAYSIAN EAST COAST EARLY CHILDHOOD EDUCATORS TOWARDS ENGLISH AND THEIR PRACTICES

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English is a lingua franca, and therefore English proficiency is an advantage for any graduate. In Malaysia, although English has been formally introduced as early as 4, proficiency in the language is still lacking. One way to improve English proficiency is before children enter primary school, as early as 2 for them to be proficient during their formation years. For this to work, early childhood educators have to be proficient as well. However, in many private preschools, their educational background has not been a priority despite the introduction of the Malaysia English Language Education Roadmap (2015-2025). With these educators being one of the primary providers of input in the system, it is essential to investigate their attitudes towards English, particularly on the east coast of Malaysia, where English usage is not as extensive as on the west coast, and how these attitudes translate into their practices with the children. This study hypothesised that the children will be exposed to more English when the educators' attitude is more positive. A set of questionnaires was distributed to 114 early childhood educators. Findings based on 30 questions (14 on Attitude and 16 on Practice) reveal that there is indeed a positive correlation between attitude and practice. Although their knowledge of the language may be limited, the positive attitude spurs them to find alternative ways to expose English to the children. The findings hence provide insight to how we can maintain and upgrade the quality of existing English language education provided in preschools and mapping it to English Language Education Roadmap 2015-2025 in order for the reform to succeed.

Keywords: attitude, practice, early childhood educators, English

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TERTIARY EDUCATORS' AWARENESS OF AND READINESS TO USE VIRTUAL REALITY (VR) IN REMOTE ONLINE LEARNING

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COVID19 has transformed the education landscape from conventional face-to-face teaching to online and remote learning. This raises issues of learners' engagement, due to the absence of face-to-face physical classroom interaction. Many students are perceived to be distracted, lacking in engagement and motivation, raising the question if students are actually learning. One solution to increase learner engagement is to use Virtual Reality (VR) in the Teaching and Learning (T&L) as it provides interactive experience that requires students' online presence during learning. Literature shows students are aware of VR benefits, yet not many tertiary educators are using VR and some may not even know of VR. Thus, this study aims to investigate Malaysian tertiary educators' awareness of VR and readiness to explore the potential of VR in remote online teaching and learning through a questionnaire survey adapted from previous studies that applied the Technology Acceptance Model as their theoretical framework. Out of 24 respondents, only 4 had actual experience using VR in the classroom. While the rest had little or no experience with VR, they had positive perceptions and were aware of the challenges of using VR. It can be concluded these challenges are part of the reason why VR is underutilised. The findings implicate the need for training and familiarising tertiary educators in the use of VR in remote online learning in order for them to be able to decide the continuous intention to use VR. It is hoped that when more educators have more intimate knowledge of VR, the more students will benefit regardless if the classes are remote online or otherwise.

Keywords: virtual reality, tertiary educators, online remote learning

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KEY ELEMENTS OF TOTAL QUALITY MANAGEMENT IMPLEMENTATION IN VOCATIONAL HIGH SCHOOL

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The main projection of vocational high school graduates is to work. To be able to produce graduates who are ready to work, schools must know what kind of graduates are needed in the world of work so that they can produce graduates who meet customer expectations, which in this case are industry and business players. The application of total quality management as a philosophy to satisfy customers has finally become the choice of most vocational high schools. This study aims to describe and model the key elements for the successful implementation of total quality management (TQM) in vocational high schools. The research approach used is descriptive qualitative with the literature study method. The results of the study show that several elements that are key in the implementation of total quality management (TQM) in vocational high schools include leadership, customer focus, top management commitment, customer motivation and commitment, continuous improvement, quality culture, communication, training and education, quality assurance, employee empowerment, involvement of academic staff, and teamwork. These key elements in the model are grouped into two major groups namely leadership and customer focus where top management commitment is included in the leadership group and motivation and commitment of employees are included in the customer focus group, while the rest are included in the combined leadership and customer focus group. The application of these key elements is ultimately expected to achieve customer satisfaction.

Keywords: total quality management, leadership, customer focus, vocational high school

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RETHINKING (NON)NATIVENESS AMONG ENGLISH-SPEAKING TEACHERS IN VIETNAM

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In Vietnam, language teaching and learning have recently been a concern of not only educators and language learners but also parents and families who have school-aged children. When finding a suitable language course, language learners and their families tend to ask questions about the nativeness of the teachers and their language fluency. Being a native speaker has become an advantage for language teachers. Their actual proficiency and educational qualifications may come in second place. This situation may lead to poorly qualified language teaching courses and unequal treatment of qualified non-native language-speaking teachers. To confront this problem, the Vietnamese Ministry of Education and Training (MOET) has tightened the job entrance requirements for foreign English-speaking teachers, especially those who apply for work as English lecturers at university. This literature review reflects on the ambivalent approach by the MOET to recruiting qualified human capacity building for the English development national project and developing and retaining English-speaking Vietnamese lecturers. This paper argues that the influence of monolingual ideologies in language teaching and learning in Vietnam that was once encountered at schools and universities some years ago has now shifted to a more open but competitive ambiance for national integration into the global market. In this sense, teaching English is not an apolitical activity. It is a politically designated career in this socialist market-oriented economy.

Keywords: language education, EFL, ESL, monolingual ideologies, nativeness, identity

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THE ON-THE-JOB TRAINING (OJT) PROGRAM: STUDENTS' FUTURE CAREER AND PERSONAL DEVELOPMENT

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It is very popular in many universities in Vietnam that students are required to participate in internship programs before their graduation. It is an opportunity for students to improve their skills and acquire new knowledge so that they can seek the most suitable future job (Seibert et al., 1989). In the Mekong Delta of Vietnam, the On-the-Job Training (OJT) appears to be an unfamiliar program for students. Different from other internships of other universities in the area, students participating in it can experience real working environment in companies and organizations from four to eight months. Since the OJT is a new module in this region, it has attracted attention of numerous educators and researchers. Thus, the current study is an attempt to explore how the OJT program impact students' future career and personal development. The study followed mixed research methods and data were gained from 150 FPT University via a 34-item questionnaire and semi-structured interviews. Results indicate that the OJT program significantly influenced student's future professional and personal developments, particularly personal capacities (PC). Spending a whole semester in businesses was found to arouse students' interests since they had a clearer orientation for their future career. Beside the strengths observed, choosing variety of firms, organizations and job training positions and responsibilities for students is considered the program developers' great concern.

Keywords: On-the-Job Training, Social Learning Theory, higher education

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HOW GLOSSES IN ACADEMIC TEXTS ARE BEING READ?

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A gloss refers to a short definition or explanation of the meaning of a word in a text that can assist learners in reading comprehension and vocabulary learning. This study aims to examine how glosses in English academic texts affect the reading behaviour of ESL undergraduates while reading is taking place. Twenty ESL first year undergraduates who were grouped into proficient and less proficient learners based on their MUET (Malaysian University English Test) results participated in a reading experiment using the eye tracking device. Eye movement data (i.e. fixation duration and scan path) obtained from the eye tracker and retrospective interviews were analysed. The glossed target words were selected from Coxhead's Academic Word List (AWL) and were placed in the same line with the target word in the texts, in right margin of the texts. Eye movement analyses showed that the position of the gloss either at the top, middle, or bottom of the page influences how and when participants read the gloss. The fixation duration data revealed that proficient participants looked at more glosses than the less proficient participants. The retrospective interview confirmed the fact that the participants did not read the gloss in each encounter as they have become familiar with the target words in the gloss. Nonetheless, they agreed that the presence of glosses in the texts helped them to learn unknown words, particularly in noticing the form of the words. The finding suggests that the use of glosses needs to be emphasized in language teaching and learning, particularly in reading comprehension and vocabulary learning.

Keywords: gloss, eye movements while reading, vocabulary learning, reading academic text

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THE EFFECTS OF USING QAR STRATEGY ON ESL YOUNG LEARNERS' READING COMPREHENSION OF NARRATIVE TEXT

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Reading in a second language is indeed a demanding task for young ESL learners as they need to comprehend texts which are morphologically or phonologically different from their first language. On top of that, the lack use suitable reading strategies may not assist to facilitate their reading comprehension. Hence, this study aimed to investigate the effectiveness of Question-Answer Relationship (QAR) strategy on ESL pupils' narrative reading and to find out their perceptions toward QAR strategy in narrative reading. This study employed a non-equivalent pre-test and post-test quasi-experimental design. A total of 72 pupils from a government primary Chinese vernacular school were chosen as participants for this study and data were collected using a multiple-choice reading test and a questionnaire. The findings indicated that QAR strategy to teach narrative reading significantly improved the pupils' narrative reading comprehension achievement. Therefore, the result of this study is expected to contribute something for the development of the process of English teaching and learning especially for the teaching of reading comprehension of narrative text.

Keywords: reading, QAR strategy, narrative text, ESL young learners, comprehension

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A STUDY ON THE EFFECTIVENESS OF CHUNK RECITATION IN ENGLISH WRITING TEACHING IN MIDDLE SCHOOL

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Anchored in the researchers' investigation and experience during the internship at a middle school in Nanjing, Jiangsu Province, this dissertation, carried out under the guidance of the theory of chunk teaching method, sorts out the current research results and findings on chunk teaching method, and then analyzes the differences between the chunk teaching method and other traditional writing teaching methods from the perspectives of contents and functions, which draws a conclusion that the utilization of chunk teaching method in China is of great significance to the improvement of middle school students' abilities in English writing. Before writing this paper, researchers conducted a series of preliminary preparations such as questionnaires, interviews and the same-topic writing tests. With that in mind, this dissertation reveals the chunk teaching method's capability of more or strengthening middle students' English writing ability, and thus demonstrates the effectiveness of chunk recitation in English writing teaching in China's middle schools, which provides reference and critical materials for scholars in this field.

Keywords: chunk, middle school, english writing teaching, effectiveness

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CAPE VERDE TEACHERS' PERCEPTION OF STEAM EDUCATION

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The increasingly pressing need of developed and developing societies to have (more) workers literate in science, technology, engineering, arts, and mathematics is at the basis of the so-called STEAM education. The support of academics, professionals, and researchers from the most diverse scientific areas to STEAM education is due to the strong impact it has on preparing citizens for a world of continuous scientific and technological development. Among its benefits, we highlight the improvement of critical, innovative, and creative thinking; the development of problem-solving, collaborative, cooperative, and communication skills; the gain of self-confidence, self-motivation, empathy, and resilience. However, the pace of implementation is not the same in all world regions. Developing and less developed countries have limitations of assorted nature in almost all areas of scientific-technological knowledge. With a general consensus on the impact of STEAM Education in the progress of any society, its implementation in developing countries becomes fundamental and urgent. According to the United Nations, Africa has the largest population of young people in the world, which means they have enormous potential to improve their security and socio-economic conditions. Cape Verde has a population of around 490,000 with the highest literacy rate in West Africa. It has around 4,000 primary school teachers, and 2,000 secondary school teachers. The study described here focuses on Cape Verdean teachers' perception of STEAM education and its integration into their pedagogical practices. It includes the analysis of data collected via a questionnaire adapted from one developed by the community for science education in Europe, SCIENTIX, reported information on official documents from the Cape Verdean Ministry of Education and other official entities, and on semi-structured interviews. The findings reflect not only teachers' ideas and beliefs about STEAM education, but also their pedagogical approaches, the resources they (do not) use, and the obstacles they face.

Keywords: ste(a)m education, teacher's perceptions, teacher's beliefs, skills

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CHILDREN'S LITERATURE: A CONTRIBUTION TO THE EMERGENCE OF SCIENCE IN THE EARLY YEARS

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Children's natural curiosity by everything around them is a premise for discovery. Natural phenomena such as the alternation between day and night, elements of nature such as the tree's leaves and their shapes and colors, daily routines as sorting waste, raise many questions in children, stimulating them towards scientific literacy through what is familiar to them and their personal life experiences. In the Science children's books, the concepts' approach sometimes difficult its understanding by child, due to the used vocabulary, the lack of an appealing narrative, among other aspects. In turn, children's literature books without any intention of promoting or developing ideas of Science can, through their narrative and illustrations, in a more meaningful context for children, motivate the inquiring and the concepts' exploration. In a presentation session of the children's book "De Fora para Dentro e de Dentro para Fora", for children in the 2nd, 3rd and 4th years of schooling in the first cycle of basic education, the reading of the story's excerpts by the authors leading to questions that were asked to the children, triggering discussions on several topics. Although the presented book does not have the explicit objective of deepening notions within the scope of Science, in the narrative and in some illustrations, ideas related with the Earth, the moon, the stars, the universe, among others, appear. In the discussion triggered by the questions proposed to the children, several ideas, perceptions, doubts, and fears related to the previously mentioned examples and other in which the children showed interest, emerged. In this work, we highlight the perspectives of children about certain scientific ideas that emerged during the book's presentation and present possible interdisciplinary pedagogical explorations motivated by the book, available on a website created for this purpose, privileging the development of cognitive, emotional and social skills.

Keywords: children's literature, science, pedagogical resources, basic education

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EFL TEACHERS' EXPECTATIONS AND SATISFACTION LEVELS OF PROFESSIONAL DEVELOPMENT

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Professional development (PD) plays a crucial role in maintaining and developing teachers' qualities and competences; however, how to make PD more effective in relation to EFL teachers' expectations and examine their satisfaction levels of PD activities organized in a foreign language center has still been a matter of much concern by administrators, researchers, and teachers as well. This study therefore aims to investigate EFL teachers' expectations and their satisfaction levels of the PD activities that they have attended. This study was conducted with both quantitative and qualitative methods of research using questionnaires and interviews, which was employed to give the answers to the mentioned research questions. The study involved 50 teachers at an English Language Center, in Can Tho City, Vietnam. Results showed that EFL teachers have high expectations of (1) PD content which especially focuses on improving lesson planning and students' outcomes, and learning how to create a supportive learning environment; (2) coherence of PD with teachers' needs and students' needs and interests; (3) opportunities for active learning such as observing more experienced teachers or being mentored by experts; and (4) duration of PD which should be on-going throughout the year and allow participants to have more time to practice new skills. Findings also revealed that EFL teachers have been satisfied with (1) the PD content, (2) the coherence, and (3) the duration of PD. Based on the main findings, some recommendations are made for improving PD qualities.

Keywords: PD activities, EFL teachers' expectations, EFL teachers' satisfaction, PD qualities

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**A HYBRID MCDM MODEL FOR ROLES SELECTION IN SUPPORTING TALENT
DEVELOPMENT INTERVENTION PROGRAMME IN MALAYSIA PUBLIC HIGHER
EDUCATION INSTITUTION**

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The process of retaining leadership succession at higher education institutions (HEI) is crucial since it has entailed the process of selecting the ideal candidate. The goal is to guide universities toward maintaining organizations' excellence in their academic leadership and management (ALM) positions. Due to the lack of established standards for assessing the competency of possible successors at their home institutions, many ALM of Malaysia HEIs is difficult to identify the proper replacement for their posts. This study aims to propose a multi-criteria tacit knowledge acquisition framework (MC-TKAF) for supporting talent development intervention programs in Malaysia HEIs. It will be based on cognitive apprenticeship, socialization, and informal learning theory which is mostly used in acquiring knowledge from expertise to overcome talent bottlenecks among novices. Fuzzy Delphi will be used as the primary methodology in this study to gather agreement regarding the appropriate indicator to measure tacit knowledge competency among ALMs at Malaysian HEIs. There are three phases: Phase 1 involves analyzing the current tacit knowledge acquisition (TKA) and identifying the appropriate parameters to build the intended framework. Phase 2 involves using the results of Phase 1 to create a new framework of tacit knowledge acquisition (TKAF) that is appropriate for the HEI environment. Phase 3's final objective is to assess the viability of the Talent Development Intervention Program's (TDIP) Tacit Knowledge Acquisition Framework (TKAF) utilizing the Multi-Criteria Decision Making (MCDM) approach. This paper's goal is to offer the hybrid MCDM approach as a talent performance indicator for the multi-criteria tacit acquisition framework. The final Phase 3 of the study design will essentially be the subject of this paper. The built-in indicators in this document may be utilized as a guide for the HEI sectors to create talent performance metrics that are appropriate for each TKA applied.

Keywords: higher education institutions (HEI), academic leadership and management (ALM), multi-criteria tacit knowledge acquisition framework (MC-TKAF)

ASSESSMENT METHOD FOR POTENTIAL EDUCATIONAL TECHNOLOGY COMPETENCY STANDARD BASED ON TPCK IN MALAYSIA HIGHER EDUCATION INSTITUTIONS

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Technology in education is purposely designed to help both educators and students in knowledge transfer and knowledge gain simultaneously. In many aspects, technology in education is supposed to prove that education can be delivered effectively and efficiently. There are cases in which technology in education can be frustrating and annoying for both parties. Government and university management have invested a lot of money to ensure that educators and students can really benefit from the technology. In spite of huge investment on educational technology tools (hardware and software) over the past decade in various education initiatives, the potential of technology usage in University level has not reached the desired level among educators and students. What is the missing link for the realization of the expected return-of-investment? The outcome of this study proposes an Educational Technology standard to be applied in university setting using TPCK (Technological Pedagogical Content Knowledge) as the basic framework. However, this paper will only discuss a part of our standard development in which highlighting the assessment method that will be used during implementation of ETC standard in our institutions. It is hoped to allow university management to review and regulate the educational technology efforts prepared to uplift the standards of educational technology in teaching and learning to be in compliance with the Malaysia Education Blueprint 2015 - 2025 (Higher Education).

Keywords: educational technology, TPCK, ICT standard, university, educators, student

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EXAMINING THE RELATIVE EFFECTIVENESS OF SOCIAL INNOVATION EFFORTS OF HUNGARIAN MUNICIPALITIES USING THE DEA METHOD

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The study presents an analysis of the effectiveness of social innovation efforts in Hungarian municipalities. Within the framework of the research, social innovation is examined as a creative collaborative process, with a particular focus on the analysis of social initiatives supported by local government. The social innovation efforts presented in this study are multi-stakeholder initiatives based on the involvement of local citizens, and the analysis of their effectiveness will allow the process of social innovation to be mapped. The specificity of the topic and the particular characteristics of the municipalities under study make the relative effectiveness analysis (DEA) method of paramount importance. In this study, we will present the initiatives studied in the municipalities and calculate the best practice effectiveness thresholds, which can be used to define an effectiveness ranking. The topic is very relevant as it is an opportunity for smaller communities. And the good practices can provide ideas that can be a stepping stone, a milestone for other municipalities.

Keywords: social innovation, DEA methods

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THE CENTRAL ROLE OF EDUCATION EQUITY PROGRAMMES, AT THE FOUNDATION OF SOCIAL SUSTAINABILITY

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One of the most popular topics is education, and this study will also focus on this area. In this research, we will examine examples of social innovation in education and the impact of these practices, with a particular focus on social sustainability. Our aim is to present social innovation programmes and good practices in the national and international field that can be identified as educationally equitable solutions and can be adapted and sustained to enhance well-being, taking into account local needs and demands and the specificities of the community. Within the framework of this study, the good practices examined are presented in a structured way, emphasising key elements that ensure social sustainability. The study also seeks to answer the question of how the social innovation-based education programmes examined support the process of social sustainability and how these programmes can help to sustain core values. The value of this study is structured around both the theme of social innovation and the theme of sustainability.

Keywords: education, social innovation

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**POWDER PROPERTIES OF SPRAY DRIED PLEUROTUS PULMONARIUS LIQUID
CULTURE FROM TEMPERATURE EFFECT**

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The production of oyster mushrooms spawn in powder culture form is proposed to solve the problem of mushroom spawn with a short life spans and easily contaminated. Various inlet temperatures (80°C, 100°C, and 120°C) of a spray dryer machine were investigated on the formation of the culture powder. The properties of the culture powder such as moisture content, water activity, hygroscopicity, sizes, and shelf life were determined from the temperature effects. Moisture content and water activity were measured directly using a moisture analyzer and a water activity analyzer. From there, value of the hygroscopicity was calculated. The size of the powder particle was examined and measured under a scanning electron microscope (SEM), and the shelf life was determined using an accelerate stability test. Results for accelerate stability test was the most important for shelf life determination and it was found that drying at 120°C had resulted the longest duration which is eight months. Other analyses of water content (21.5%), water activity (0.17%), hygroscopicity (5.17%) and powder size (10 to 25 µm) had established the standard properties of *P. pulmonarius* powder at this temperature.

Keywords: mushroom spawn, powder properties, spray dryer

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EVALUATION OF FEATURES ON MOBILE INVESTMENT APPLICATION USING KANO MODEL

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The use of smartphones has become a primary need in supporting human daily activities. With the presence of a smartphone, various activities can be carried out only through an application. One application that is currently popular with Indonesians is an investment application with products such as stocks, mutual funds, and crypto. The presence of investment applications in the past few years has made the investment process easier to do. However, the age of the application development company which is still quite young makes the application have a lot of room for improvement, such as the features offered in the application. This study aims to evaluate the effect of the features available on one of the investment applications in Indonesia with the Kano model approach. The Kano model is used to classify the existing features based on their influence on user satisfaction. 21 features associated with the application are defined. The survey was taken to 104 participants to identify user perspective of each feature on user satisfaction. The result of this study reveals that there are 12 features classified as Indifferent, 6 features are classified as One-dimensional and 3 features are classified as Reverse which means there are rooms for improvement of the features that will improve the user satisfaction.

Keywords: Kano model, investment application, user satisfaction, features

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PLAGIARISM IN ACADEMIC WRITING IN HIGHER EDUCATION INSTITUTIONS: A BIBLIOMETRIC ANALYSIS

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Higher education institutions are increasingly challenged by plagiarism, which threatens their academic standards and integrity. This is due to the fact that students have access to an overwhelming amount of information online, making it easier for them to copy and paste without giving proper credit or attribution. Additionally, the prevalence of technology has made it easier to copy and paste without detection. The study aimed to analyze the trends in plagiarism in academic writing by using bibliometric analysis, which is a technique that can measure and analyze the use of published documents. This analysis was used to identify any potential changes in the prevalence of plagiarism in academic writing over time and to identify potential factors that could be influencing it. The data is extracted from Scopus database with Boolean and proximity search strategy and found 579 related journal articles. There are tabulations of results ranging from descriptive analysis, citation analysis, co-citation analysis, and co-word analysis. The descriptive findings revealed that 'academic integrity', despite not being included in the search string, was the most commonly occurring word with 284 indicating a significant relationship between plagiarism in academic writing in HEIs. In addition, citation analysis for the top ten documents was presented. The findings of co-word analysis are thematically presented in three prominent clusters that highlight factors, new trends of academic integrity, and mitigation plans against plagiarism. In most prominent articles cited by many authors, contract cheating is the new trend of plagiarism. As a result, it sheds light on the fact that academic integrity issues go beyond a new phenomenon that needs to be taken seriously. This study has both theoretical and practical implications for minimizing future plagiarism risks as well as identifying and recommending potential solutions to the problem.

Keywords: plagiarism, higher education, academic writing, academic integrity, bibliometric analysis

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ADAPTIVE APPROACHES OF PRIMARY SCHOOL TEACHERS FACILITATING ENVIRONMENTAL STUDIES

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This paper examines teachers' adaptive approaches with regard to Environmental Studies (EVS) within primary classrooms of government schools located in suburban Mumbai in India. Data collection involved ethnographic field notes and semi-structured interviews across four schools and fifteen teachers teaching Grades 3 to 5. 'Environmental Studies' (EVS) is a significant aspect of school curricula; integrating concepts and issues of science (physical, chemical and biological), social studies (history, geography, civics, culture) and environment education (protection and conservation). While the effectiveness of curricular activities and materials for EVS in fostering student learning is often examined, teachers' implementation of these resources have received relatively inadequate attention in scholarly research. In the reform based EVS curriculum in India, the curriculum activities contain suggested pedagogical processes rather than strict directions to follow. Teachers are expected to adapt the activities to their context and connect the textbook content to students' lived realities. The local conditions in government schools, as well as the nature of reform curriculum and teacher training form the background to the complexities involved in adaptive teaching. We find that different adaptive methods are developed by some teachers over time in response to their documentation of local concerns and resources. We also find that the teachers' strong sense of professional agency is reflected in their explorations with curriculum-adaptation possibilities while critically contemplating textbook goals. Additionally, teachers' varying levels of trust in the design of existing textbook activities may affect their pedagogical decisions. We propose that delving into teachers' local knowledge provides insights into their perspectives and practices regarding student learning. Studying teachers' adaptive approaches is therefore imperative and has critical implications for curriculum design and teacher professional development efforts.

Keywords: environmental education, teacher practice, curriculum activities

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ENSURING INTERCULTURAL DIVERSITY THROUGH A STUDENT EXCHANGE PROGRAM

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Target 4 in Sustainable Development Goal 4 (SDG4) aims to ensure that education is equally accessible to all genders who are taught to appreciate human rights and cultural diversity as global citizens. Understanding and sympathy for intercultural differences become important in higher education. With a focus on the foundations and dimensions of Vietnamese culture, the course VNC104 (Vietnamese Culture) allows lecturers to meet Target 4 in SDG4 in some ways. Advancing students' understanding and sympathy for intercultural diversity requires lecturers to involve them in activities that are socially constructed. The platform EduNext, which has been implemented at FPT University by using the social constructivism theory, enables knowledge to be socially constructed. Socially constructed knowledge can be absorbed through the body and mind. As such, bodily engagement, environment, task integration, and use of objects play a vital role in this process. EduNext alone cannot always involve the connection of the body and mind. The world is not simply understood by the working mechanism in our brains. Nevertheless, it must be felt and sensed. In this presentation, the author examines the use of Merleau-Ponty's works on embodiment in conjunction with Vygotsky's Zone of Proximal Development and Bloom's taxonomy to increase students' cognitive development through the connection between the mind and body. The combination of these three theories has the potential to link social constructivism to students' bodily engagement in the world through cognitive processes. It also develops an innovative approach to establishing an organic rapport with students of diverse backgrounds and ensuring education quality for global citizenship.

Keywords: teaching culture, merleau-ponty, Vygotsky's Zone of Proximal Development, Bloom's Taxonomy

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INVESTIGATION OF THE RELATIONSHIP BETWEEN HUMOR USE AND PSYCHOLOGICAL RESILIENCE OF MOTHERS WITH SPECIAL NEEDS CHILDREN

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Mothers of children with special needs have various difficulties, mostly as direct caregivers of the child. The level of coping with these difficulties is also related to the psychological resilience of mothers. Although there are many coping mechanisms to protect the psychological resilience of people, humor is one of them. For this purpose, it was aimed to examine the relationship between the levels of coping with humor and psychological resilience of mothers who have children with special needs. The study group of this research, which was designed according to the relational survey model, consisted of 480 mothers with children with special needs, whose educational examinations were completed by applying to various Guidance and Research Centers in Istanbul in the spring semester of the 2022-2023 academic year. In the study, Coping with Humor Scale and Brief Psychological Resilience Scale were used as data collection tools. In the study, the relationships and differences between the variables were examined through the Anova test, Pearson correlation coefficient and regression analysis. As a result of the correlation analysis, it was found that there was a positive, high, and significant relationship between the mothers' scores on coping with humor and psychological resilience scores. As a result of the regression analysis, it was found that the level of coping with the difficulties brought by this situation through humor predicts the psychological resilience of mothers who have children with special needs. As a result of the study, it was seen that humor is an important coping tool in increasing the psychological resilience of mothers with children with special needs, and various suggestions were made for educators and mental health professionals.

Keywords: individuals with special needs, resilience, coping with humor, mothers of individuals with special needs

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THE ROLE OF COLLECTIVITY IN SAUDI FEMALES' SUCCESS

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This paper argues that black women become community leaders and influencers that help others envision a better future by examining the ways that a film featuring African American women, specifically *The Help*, has affected me and how my personality is changed before and after majoring in African American Literature. More specifically, this paper highlights black women's voices in terms of defining themselves as women who should have role in their society, and their influences on my personality's development as one of Saudi women spectators, in terms of understanding my subjectivity, desires, and abilities of making a change within the social life, through the use of autoethnography. In doing so, I use a research method known as autoethnography, in which I am the subject of this study, which allows me to connect my personal experiences to a wider group of women who share my same culture, politics, and society. With the experience of black female activists' narration in mind and through my experience with the support of the strong message of *The Help*, I am able to show how my personality and view toward the role of patriarchy has impacted and changed by black women's activism and how they think of making a change within their social lives. By the end of this paper, I approve that the importance of collectivity is important in females' successful activism that can extend beyond the boundaries of social, economic, and political situations.

Keywords: collectivity, black women, saudi women, feminism, social change

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UNDERGRADUATE STUDENTS' E-SKILLS IN THE DIGITAL AND SUSTAINABLE DEVELOPMENT WORLD

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Abstract The world of globalization and the high development speed has raised high demands on equitable quality education and lifelong learning to all, which is also known as the objectives of Sustainable Development Goal 4 (SDG 4). Thanks to the rapid expansion of digital technology, educational quality and equity are gradually achieved. In addition, information technology (IT) plays vital roles of electronic instructors, guiders, tools and materials in supporting individuals' lifelong learning. Therefore, it is tremendously crucial that young generations should prepare themselves not only academic competencies but also a variety of skills including digital skills (e-skills) in a digital society that is densely linked and moves at a quick pace. This research emphasizes the significance of being digitally-enabled in the sustainable development world. It aims to find out how undergraduate students view themselves in terms of several facets of digital literacy, such as the capacity to handle digital issues, the processing of data and information, the production of online content, the usage of communication tools and the ability to create online contents. The findings give an analysis of university students' current digital literacy and their application, whose outcomes can be used to enhance learning, teaching and administrative activities in education in general; and to attain SDG4 in particular.

Keywords: undergraduate students, e-skills, digital skills, sustainable development, higher education, digital tools, digital learning

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MEASUREMENTS OF STRAINIS ON THE TOOTH IN COAL CUTTING PROCESS

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The article describes a study on the complexity of the excavation process of bucket-wheel excavators and of the kinematics of the cutting tool, respectively the accurate determination of the forces in the cutting teeth which can be realized only through an experimental method in situ. For this reason, to conduct the research, we have confectioned a dynamometric tooth identical to the regular cutting teeth. The entire assembly is a “dynamometric bucket”, fitted with the mentioned tooth fitted with pressure sensors and the electrical harness attributed to it. Because the measured information and recorded is represented by the specific displacements from the applying points of the transducers onto the teeth, the relations between them and the components of the resulting points have been established for each tooth (normal, lateral, tangent). From here the conductors will be shielded onto the bucket, and the bucketed wheel to the transmission system of the measured data as relations between the forces which act on the tooth and the specific displacements from the measuring points. To establish the program to gather and modify the data obtained from the measurements it is necessary to establish the relations between the forces F_x , F_y , F_z with random values, which act onto the dynamometric tooth in the splintering process, the geometrical parameters of the tooth and the specific linear displacements from the placing points of the SG onto the dynamometric tooth. After applying the specific deformations to the center of the edge of the tooth and to the geometrical cross section obtained in laboratory conditions, the results will be benchmarked against the conceived dynamometer for the research.

Keywords: mining, excavation, measuring, cutting tools, in situ experimentation

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VIRTUAL INTERNSHIPS: A COMPARATIVE STUDY OF VIRTUAL AND FACE-TO-FACE INTERNSHIP

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Today, the world is moving towards globalization and is becoming more technology-driven. It is making the relevance of virtual internships rise drastically. Covid-19 has taught companies to adapt and show agility in terms of the existing processes, and the same applies to the mode of the internship as well. However, the question remains about the feasibility, impact, and relevance of virtual internships in several industries like production, manufacturing, and pharmaceuticals. This study aims at providing a comparative analysis of virtual and face-to-face internships based on different factors. The study also depicts the impact of the mode of internship on the student's learning, the skills acquired, and the impact on team work. The data was collected from Higher Education Institutions (HEIs). The participants of the study were MBA students studying in the first year of the program. In order to draw comparisons, the data was analysed on various factors team work and collaboration, skills acquired during internship, manager support, stipend paid and learning and satisfaction. The results of the study indicate that the Virtual internship offers advantage in terms of cost and convenience but it may not be suitable for all types of industries like manufacturing. In order to have effective virtual internships the need of resource support and team work is essential. A virtual internship will require a better design in terms of resource support and manager interaction which is currently low. The findings of the study will help the Human Resource professionals to design virtual internship which help the company to get the advantage of saving costs and also get benefits of a face-to-face internships.

Keywords: comparative study, learning, skills, teamwork, virtual internship, face-to-face internship

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LEARNING ANALYTICS AS A PREDICTIVE TOOL IN ASSESSING STUDENTS' ONLINE LEARNING NAVIGATIONAL BEHAVIOUR AND THEIR PERFORMANCE

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Learning Analytics (LA) captures the digital footprint of students' online learning activity. This study describes students' navigational behavior in an e-learning setting by processing the LA data obtained from Blackboard LMS. This is an attempt to understand the navigational behavior of students and the relationship with learning performance. The study was carried out with 88 learners from a Malaysian private university. The course sites' log data and students' performance were analyzed, and the results were as follows: 4 navigational behaviors played an important role in student's academic performance which are active days, total learning time, number of views, and days delayed in accessing the assessment. Active learning from Tuesdays to Thursdays had a significant positive effect on performance. It was found that the higher activities (total learning time, number of journals viewing) translate to better performance. Days delayed in attempting assessments had a significant but mixed effect on performance, depending on the type of assessment. However, the number of logins is insignificant. The findings of this study provide empirical evidence of the importance of self-discipline in online learning and provide instructors with a predictive measure as a call for early intervention to help online students.

Keywords: learning management system, student engagement, Blackboard analytics, performance, learning analytics

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A QUALITATIVE RESEARCH ON THE PROFESSIONAL JOB SATISFACTION OF VARIOUS SECONDARY SCHOOL FIELD TEACHERS

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The aim of the present study is to reveal the views of secondary school teachers in various fields about their job satisfaction and highlight the factors affecting their job satisfaction. The study was conducted in some public secondary schools in the central districts of the Diyarbakır province in the fall semester of the 2022-2023 academic year. There were 25 teachers in the participant group, 7 of whom were female and 18 males. The data in this study, which was methodically designed in the phenomenology pattern, were collected by the semi-structured interview technique. The data, which included two different types of analysis of descriptive and content analysis, were completed with a computer-aided qualitative analysis program. As far the results obtained in the study are concerned, it is possible to that the teachers predominantly had negative views about their job satisfaction. The outstanding factors for teachers' job satisfaction were internal motivation, physical conditions of the school, communication with the school administration, socio-economic level and respect for the profession. In this sense, it is believed that the strong communication to be established between the school administration and the teachers, the improvement of the physical conditions in the schools and the fair wage policies will contribute positively to the job satisfaction of the teachers.

Keywords: job satisfaction, teacher, motivation, phenomenology

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MODULAR THINKING: THE CASE OF PRION DISEASES

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In this study we put forth the modular hypothesis of prion diseases. According to this hypothesis, the manifestation of a prion disease occurs from the interaction of two genetic modules, such as the PRNP gene module and that of the gene or genes responsible for one or many chaperones, with a chemical module on the structure of which the products of genes or genetic modules interact. The structure of the chemical module or modules is directly responsible for the folding or misfolding of the PrPC proteins. When one of the gene products is mutant, the conversion of PrPC to its isoform PrP^{Sc} occurs. The aetiology of prion diseases is explained based on this hypothesis. Hence, it has been proposed that g(f)CJD has the PRNP gene mutant and one or more mutant genes for one or more chaperone genes. In contrast, sCJD has one or more mutant chaperone genes and the PRNP gene is polymorphic for few mutant codones. Supporting the etiological hypothesis of g(f)CJD and sCJD is the manifestation of the acquired or infectious iCJD diseases. Individuals who have acquired the disease through contamination have a few mutant codones of the PRNP gene and get infected with mutant chaperones from both g(f)CJD individuals as well as sCJD ones. In a recent study, there was a case study where the manifestation of CJD is due to the connection between neuroinflammation and misfolding. This case is proof that prion disease occurs due to the chemical module formation which is necessary condition for the manifestation of prion disease. We think that perhaps future studies should focus on the association mechanisms of mutant codons of the PRNP gene with mutant chaperones.

Keywords: prion disease, genetic module, chaperone module, modular model, PRNP, misfolding

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ON INFORMATION, AND MODULES AS OBJECTS OF NATURAL AND SOCIO-CULTURAL SELECTION

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Nowadays it is accepted that Shannon's concept of information is not valid for biotic systems. This study supports the idea that information is an attribute of matter and that modules, as building units, of function and objects of selection and self-organizing processes of living organisms, have been formed from the interaction-based information. The main types of interaction-based information are considered chemical, genetic, epigenetic, neural, mixed, linguistic and social-cultural from which modules are formed in living organisms in order to provide survival and reproduction. Additionally, each module interacts with the inner and outer environment and performs a proper function. Semantic or modular information is calculated as function performed probability. In this case the module acts as an intelligent agent. In addition, modules have their two sides, just like the two sides of a coin. They've been defined from a structure and function perspective. Recently, it has been argued that natural and socio-cultural selection acts on the structure and function of the modules.

Keywords: interaction information, semantic or modular information, module, natural selection, structure, function, socio- cultural selection

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CONTRIBUTION OF PROJECT-BASED LEARNING AND INTEGRATED LEARNING TO DEVELOP STUDENT' HOTS

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The development of higher-order thinking skills requires appropriate learning techniques. Project-based learning and integrated learning are learning models that can be used for this purpose. This study aimed to evaluate the contribution of project-based learning and integrated learning to the HOTS development of students in 6 private schools. The sample in this study was high school-level students who were determined by purposive sampling and random sampling techniques. The number of samples is 500 students. The instruments used are a measurement scale and a questionnaire with open questions. Data analysis was performed using the partial least squares technique. Based on the results of measurement scale data analysis, it was found that project-based learning combined with integrated learning showed a significant contribution to the development of students' HOTS. Project-based learning and integrated learning provide flexibility for students to study according to their characteristics so that the application of the student-center approach is practical. In addition, students are more motivated to undergo the learning process with this model approach because of the challenges of producing quality projects.

Keywords: HOTS, project-based learning, integrated learning

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AN INVESTIGATION INTO THE IMPLEMENTATION OF A MENTORING PROGRAM FOR EFL NOVICE TEACHERS AT AN ENGLISH CENTER IN THE MEKONG DELTA

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Professional development (PD) plays a crucial role in promoting teachers' linguistic competence and teaching quality, contributing to enhancing and maintaining sources of effective teachers, especially novice teachers who have little experience in teaching. Mentoring has emerged as a PD activity in which a novice teacher is mentored and directly supported in various aspects by an experienced professional. It has been popularly adopted in several countries in the world, including Vietnam. This study was conducted to investigate the extent of various types of support that the mentoring program provided. Additionally, it aimed at exploring the level of satisfaction and expectation of EFL novice teachers regarding the types of support in the program. The study was designed as a mixed-method study, using a questionnaire and interviews as data collection instruments. The study involved the participation of twenty-five EFL novice teachers who have less than three-year experience in teaching and took part in a mentoring program held by a private English center in the Mekong delta. The finding showed that all types of support in the program, including instructional support, emotional support, physical support, and institutional support were provided to a high extent. The participants hold a high level of satisfaction with these types of support. The results also revealed that EFL novice teachers had high expectations about maintaining support after the program, especially instructional support. Based on the findings, some recommendations were suggested to promote the quality of the program and meet participants' needs and expectations.

Keywords: mentoring programs, EFL novice teachers, support novice teachers

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**BT- CNNCAE: A BRAIN TUMOR CANCER DETECTION USING HYBRID
CONVOLUTIONAL NEURAL NETWORK AND CONVOLUTIONAL AUTOENCODER**

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Aberrant cell growth leads to the development of a brain tumor i.e., when normal cells develop changes or mutations in their DNA, within the brain. It is a serious life-threatening disease which can also be cancerous or become cancerous. The need for early detection of brain tumor is essential for proper treatment. Diagnosis is usually done with the help of Magnetic Resonance Imaging (MRI) images. Machine learning can be used to build systems that automate the diagnosis process. Convolutional neural networks (CNNs) are a category of deep learning approach and one of the methods used for image processing the most frequently. The hybrid model presented in this paper, which combines convolutional neural networks (CNNs) and convolutional auto encoders (CAE), presents a unique method for diagnosing brain tumors. The proposed BT-CNNCAE approach provides acceptable results in the detection of brain tumor. It is evaluated on Br35H-2020 brain tumor dataset that consists of around 3000 MRI images. With only 26,833 parameters, the hybrid model is able to achieve training accuracy of 99.83% and testing accuracy of 97.50%, making it a useful tool for brain tumor identification.

Keywords: cancer, brain tumor, convolutional autoencoder, convolutional neural network, MRI images

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EFL TEACHERS' BELIEFS ABOUT TECHNOLOGY INTEGRATION INTO ENGLISH LANGUAGE CLASSROOMS: A CASE STUDY AT A UNIVERSITY IN THE MEKONG DELTA

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In this era of information and communication technology boom, applying this advancement to all areas is a matter of course. This is a general tendency for technology integration into foreign language teaching at universities and schools in Vietnam. Following this trend, this paper reports the results of a study investigating teachers' beliefs about the effectiveness of technology application in English teaching at the university level. Two research instruments were a questionnaire and an interview. The results indicate that all participating teachers realized the significance and the trend of implementing technology into education and the advantages it brings to foreign language teaching and learning processes. These teachers, nonetheless, confessed their shortage of technical knowledge and skills and were satisfied with the sufficiency of technology equipment in the classrooms. Interestingly, despite these concerns, these teachers are still willing to apply technologies to their future teaching and strengthen their technology skills by self-learning and hopefully through professional training courses.

Keywords: teachers' beliefs, technology, integration, application, language classrooms

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**THE INFLUENCE OF THE AGING PROCESS ON THE PHYSICO-CHEMICAL
COMPOSITION AND ORGANOSENSORY CHARACTERISTICS OF THE ALCOHOLIC
DISTILLATE PRODUCED FROM THE BLACK SHESH VARIETY**

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The non-aromatic variety Black Shesh is an autochthonous Albanian cultivar spread throughout the Albanian territory mainly used for wine production. The study is focused on a certain amount of the Black Shesh variety, which was subjected to controlled vinification at a temperature of 18-20°C, without the presence of SO₂ in the presence of 3 gr/l of selected yeast *S.cerevisiae*. Then the fermented mass is subjected to the process of fractional distillation, single distillation is performed, the obtained distillate is subjected to aging in oak wood for 1, 2 and 3 years. The aim of the study is to identify the physico-chemical and organosensory characteristics of this alcoholic distillate before and after aging for 1, 2, 3 years. The analyzes were carried out according to the methods OIV-MA-AS312-01A, OIV-MA-AS313-01; REG-CE 2870/2000. Referring to CE Regulation no. 110/2008, point 3, article 1, alcoholic distillate stored in oak wood has changes in its physical and chemical composition. The results show that the change in the physico-chemical composition is observed in the third year of aging and mainly in the reduction of the methanol content, which decreases by 2.05 gr/l a,a; in the increase of high alcohols up to 4 gr/l a,a; increase of furfural in the amount of 0.22 gr/l a,a; increase of acetic aldehyde in the amount of 1.75 gr/l a,a; ethyl acetate increases to the amount of 3.8 mg %ml a,a. The organosensory evaluation of the aged distillate shows an improvement in the aromatic picture even though the initial aromatic intensity of the distillate is negligible, the sweet taste is easily discernible, the color changes from transparent white to the shade of honey, these come as a result of the hydrolysis of lignin and wood hemicellulose. The distillate does not lose its clarity during aging in oak wood.

Keywords: alcoholic beverage, distillate, Black Shesh

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REFORMING EARLY CHILDHOOD EDUCATION PROGRAMS IN RURAL AREAS OF INDIA: EQUITY IN PRESCHOOL EDUCATION

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A child's early years (0-8 y) are the critical development years, as this is when the foundation for learning is laid. A strong learning foundation yields better school performance and increases the likelihood of attaining higher education, resulting in major social and economic gains for society. The early childhood care and education of nearly 80 million Indian children, below the age of six, is covered by Integrated Child Development Services through 1.37 million Anganwadi centers (AWCs). Sixty percent of these children are from rural areas. Preschool education, immunization, health check-ups, referrals, dietary supplements, growth monitoring, and education on health and nutrition are provided at the AWCs. Forty-two percent of these rural children receive pre-school education at the AWCs, and the majority are from disadvantaged families. In this study for evaluating the status of early childhood education programs at rural AWCs, quantitative and qualitative data were collected from 71 AWCs across 25 villages in Haryana, to assess their physical setup, availability of learning resources, and administration and Anganwadi workers' knowledge, attitudes, and skills regarding early childhood education. The findings suggest that most of the AWCs do not have proper infrastructure, are not adequately safe, and compromise on health and hygiene. Further, learning resources are scarce and the Anganwadi workers are not trained well enough to impart knowledge and skills to children in a sustained manner. Many of them do not understand the importance of partnering with parents for children's holistic development. Although this study is limited to 71 AWCs in Mewat, the literature review indicates that these issues and challenges are common to rural villages, which is a serious concern for equity in preschool education. Thus, there is a need for several prompt reforms in early childhood education programs in rural areas of India to bring equity into preschool education.

Keywords: early childhood education, preschool education, Anganwadi, Mewat

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INVESTIGATION ON FOREIGN LANGUAGE ANXIETY AND SELF COPING STRATEGIES OF CHINESE LANGUAGE LEARNERS IN VIETNAM

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Due to the increased ties and cooperation between China and ASEAN countries, teaching the Chinese language in Vietnam is rapidly developing, with more students learning Chinese yearly. The purpose of this study is to investigate the sources of Chinese learning anxiety among Chinese learners in Vietnam and the strategies and methods used to cope with anxiety. From this, this study suggests effective strategies to be adopted for learners' learning anxiety caused by different anxiety situations. The results of this study showed that (1) seven factors, including learners' own anxiety, teachers, peers, the characteristics of the Chinese language itself, fear of making mistakes, test anxiety and the learning environment, were the main causes of Chinese learners' anxiety. (2) When Chinese learners face anxiety, they try to cope with it through independent learning and seeking assistance from teachers. In addition, because Chinese is a challenging language, they also constantly adjust their feelings to face the learning task, strengthen their motivation to overcome anxiety, and increase their self-confidence in learning Chinese through repeated practice.

Keywords: Chinese learning anxiety, school students, self-coping strategies

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STUDENTS' MATHEMATICS PROBLEM SOLVING SKILLS BETWEEN FULL-ONLINE LEARNING AND HYBRID LEARNING IN STATISTICS COURSE

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Learning loss due to online learning has caused students to experience a decrease in their ability to solve mathematical problems. One of the declines in students' mathematical problem-solving skills occurred in the statistics course. Statistics as a branch of mathematics has an important role in training students' skills in processing and analyzing data. The low ability of students to solve mathematical problems became a serious problem. So we need an appropriate learning model to overcome these problems. One of the learning models that can be used is hybrid learning. The subject of this study was the primary student study program from the Faculty of Education at UPH in Indonesia, with 110 samples divided into 54 control groups and 56 experimental groups. The control class was treated with full online learning, while the experimental class used hybrid learning. This research aimed to compare which type of learning is more effective, full online or hybrid learning. This research method used in this study is quasi experimental. Data were processed using SPSS, called normality test with Shapiro-Wilk and statistical tests using Mann-Whitney. The results showed that hybrid learning was more effective than full online learning.

Keywords: mathematics problem solving, full-online learning, hybrid learning, statistics

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DEVELOPING THE PERSPECTIVE OF PRESERVICE MATHEMATICS TEACHERS THROUGH EARLY FIELD EXPERIENCE

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Field experience is done to provide an opportunity to preservice teachers to develop pedagogic, professional competencies, personality, and social holistically through classroom learning and interactions outside the classroom. The purpose of this study is to describe what preservice teachers observe and what their perspective process they get during an early field experience. The subject were sixteen preservice mathematics teachers which they do field experience in separate school and data collect by questionnaire, reflection, and interview. Questionnaire data analyze with quantitative method using dependent t-test to compare their perspective before and after early field experience. Data from reflection and interview analyze with descriptive qualitative method. The results that there is difference of perspective before and after field experience. Through observation and learning class and school environment makes difference with their personal beliefs, values, curriculum design, and teaching strategies. Perspective teachers growth in their confidence, how to thinking about themselves, values, flexibility, to design curriculum, teaching strategies.

Keywords: curriculum design, teaching strategies

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AN ANALYSIS OF VIETNAMESE LEARNERS' ERRORS IN ENGLISH SPEAKING

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This paper reports on an error analysis that examined the errors produced by Vietnamese EFL learners in speaking. The research design was decided to support a clear framework for collecting, analyzing, discussing, and interpreting data to examine possible influences of the mother tongue on English grammatical errors. 30 natural conversations and 20 follow-up interviews were employed as data collection instruments. The questions for the conversations covered topics related to the participants' interests and backgrounds to create a comfort zone for them. The follow-up interviews allowed the authors to unpack the error sources. The findings reveal that learners' errors belong to three main types: lexical, syntactical, and phonological aspects. These errors are caused by at least six sources: learners' lack of English knowledge, insufficient practice and lack of exposure to English-speaking environments, the direct translation of L1 grammar rules, imitation based on supposed linguistic similarities, learning-for-exam pressure, and less advantaged geographical residency and English learning conditions. On the one hand, these errors and their sources can explain learners' incompetencies. On the other hand, this paper argues that some of these sources are utilized as speaking strategies that learners initiate to sustain communication. Errors, in this sense, are embedded with the active agency rather than being viewed as mere linguistic gaps created by learners' incompetencies. As such, L1 interference is sometimes positive and contributes to learners' L2 learning processes.

Keywords: error analysis, learners' errors, grammatical errors, L1 interference, Vietnamese EFL learners

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FINANCIAL STABILITY CHALLENGES POSED BY THE COVID-19 PANDEMIC: A REVIEW

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This paper examines the structure of financial stability and how they relate to pandemic research for the COVID-19 virus. In particular, it analyses significant components of earlier financial stability and COVID-19 analysis, creating a framework to direct subsequent studies in the field. This study utilised the content analysis technique, related visualisation tools, and bibliographic mapping, and the literature on financial stability and COVID-19 was analysed. The worldwide financial crisis, particularly the most recent concern, COVID-19, was considered to have considerably shaped the features of financial stability literature. Two major observable themes from the content analysis are where the research is concentrated. There are the effects of COVID-19 and past financial crises and the impact of COVID-19 on the global financial market. A single database potentially limits the literature coverage. In addition, the time frame for the data collection was also short, only 3 years. A road map for further investigation in the field is offered, together with a summary of the body of knowledge on financial stability and COVID-19.

Keywords: financial stability, income stability, COVID-19, financial crisis, bibliometric analysis

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APPRAISING THE PAST: THE EVALUATIVE LANGUAGE IN HISTORICAL TEXTS

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In the area of second or foreign language, learners may face challenges in interpreting the writer's stance in historical texts. Such problem may stem from their lack of understanding of generic properties of historical genre in interpersonal function of language use (Martin & Rose, 2008) and could be addressed through effective reading instruction. Driven by this concern, this study focuses on one of the critical stages of Feez's (1998) teaching-learning cycle, 'modelling and deconstruction of text' to examine how the linguistic means for evaluating historical phenomena utilized in order to give meanings to the past. Appraisal analysis (Martin & White, 2005) is also applied in this study to investigate how different evaluative strategies operate in historical genre. Two historical texts about Indonesian war are selected as the sample to highlight the features of evaluative language. The strategies involve using linguistic resources to respond to events emotionally, judge past behavior within a moral framework and assess the weight and causal force of past events.

Keywords: appraisal analysis, historical texts, text deconstruction

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FACTORS INFLUENCING THE USE OF THE DONATION-BASED CROWDFUNDING PLATFORM IN INDONESIA

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The use of donation-based crowdfunding platforms in Indonesia is still not optimal, despite the country being known as one of the most generous in the world. This research discusses the factors that influence the use of donation platforms in Indonesia, namely perceived ease of use, perceived usefulness, platform trust, subjective norm, and gamification. Perceived ease of use and perceived usefulness are of concern because the public is still hindered by administration and usage. Platform trust is an important factor because of concerns over violations that occur in the platforms, reflected in reputation and information quality. Subjective norm is related to communities that have started using donation platforms with a significant number of donations. Another challenge of using donation platforms is low user engagement and retention, which can be improved through gamification. This research results show that the perceived ease of use, perceived usefulness, and platform trust have a positive effect on behavioral intention, and behavioral intention has a significant effect on crowdfunding implementation. Meanwhile, the subjective norm factor does not directly affect behavioral intention, mediated by the perception of ease of use. Gamification does not have a significant effect on behavioral intention, but has a significant effect on crowdfunding implementation, meaning that gamification will be useful for increasing retention rather than attracting users. These research results are processed with a framework to determine a scale of priorities or a list of features that can be developed to improve the performance of using donation platforms. This research can serve as a guide for donation platform developers to improve the use of donation-based crowdfunding platforms in Indonesia.

Keywords: donation-based crowdfunding platform, perceived ease of use, perceived usefulness, technology acceptance model, platform trust, reputation, Indonesia

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FACTOR ANALYSIS OF INTENTION TO USE DIGITAL WALLET BY MSMEs IN F&B SECTOR

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Since the pandemic hits, we need to adjust specific ways to prevent the spread of COVID-19, primarily due to the enforcement of Social Distancing. In Indonesia, how we purchase things has changed significantly, leading to the growth of Digital Wallet usage in the online and offline sectors. This phenomenon aligns with the government policy and the objective of pursuing a Cashless Society and bringing financial inclusion for MSMEs in Indonesia. To achieve that, the adoption of the technology must be accepted by the Shopper and the Merchant, especially in the more extensive sector such as retail and F&B. This study aims to find the significant variable that influences the adoption of Digital Wallets by merchants in the offline sector by developing a conceptual model based on the Technology Acceptance Model (TAM) and focusing on the outcome of Intention to Use of the technology. A survey of 149 respondents who own a brick and mortar businesses in the F&B sector is collected and analyzed using the PLS-SEM. Out of 13 hypotheses that have been developed, seven were accepted, and six were rejected. The results of the study can be used to help Digital Wallet companies understand the factor that might influence the adoption of the technology by the merchant in the F&B sector.

Keywords: digital wallet, MSME, technology adoption, Technology Acceptance Model, PLS-SEM

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A FRAMEWORK OF UNIVERSITIES' SMART CAMPUS TO DETECT AND MITIGATE VULNERABILITIES FOR IOT DEVICES

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One of the most persuasive technologies in developing universities' smart campus applications is the Internet of Things (IoT) technique. Deploying thousands of readily available devices connected to IoT systems by ignoring device vulnerabilities and threat strategies in smart campus infrastructure is exacerbating security challenges. Moreover, unreliable sensing, transmission, or processing of IoT devices, false observations, long delays, and data reports reveal the vulnerability of efficient smart campus infrastructure. Some transient errors or attacks also occur here due to many vulnerable device memory, processing power, soft errors, and battery imperfections. The need to overcome significant challenges, including advanced training-rich IoT devices, credible designers, reliability, scalability, interoperability, availability, and performance, has motivated our aim to implement intelligent platforms for university campuses. In this study, we propose an operational framework for smart campuses to detect and mitigate vulnerabilities aimed at processing a comprehensive security certification of IoT devices, including introducing a smart model for university campuses. We discuss challenges, detection, and mitigation of vulnerabilities associated with smart campuses. From the literature exploration, we found that machine learning and DNN are capable of being used to detect malicious behaviour and vulnerable sources. Thus, the proposed framework is expected to provide better security and be capable of meeting the compliance of existing university services.

Keywords: device, iot, smart campus, university, vulnerability

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IOT-DRIVEN SUSTAINABLE GREEN ENERGY SYSTEMS IN AN ORGANIZATION: ISSUES AND CHALLENGES

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Sustainable energy harvesting from renewable sources such as solar, wind, or water power leads to a significant challenge in managing IoT applications. Utilizing renewable energy combined with optimized system energy has become a major concern across IoT-based large-scale systems for obtaining a reliable and energy-efficient eco-infrastructure system. A green technology-operated IoT (G-IoT) has been introduced as part of energy efficiency solutions for IoT-based systems to address the issues. Many researchers have explored various solutions related to energy-efficient G-IoT approaches for eco-infrastructure systems in an organization such as a university campus. As there are various existing approaches to G-IoT, the question here is how to produce a reliable, real-time, and energy-efficient system to ensure sustainability for replicating a city like a university. This paper intends to explore existing works on G-IoT-based approaches in terms of energy efficiency issues and challenges from various authors' perspectives. The key goal of this study is to conduct a comprehensive overview to identify the parameters involved in developing a real-time and energy-efficient G-IoT system from existing works. Accordingly, an operational approach is introduced to review and analyze the work, factors, and techniques of G-IoT-related existing articles. From exploration and analysis, this study affords an in-depth description based on current trends, related parameter identifications, and capable approaches to bridge existing strategic gaps for future research. Thus, this study is expected to develop an IoT-powered sustainable green energy system replica for an organization.

Keywords: energy harvesting, g-iot, green technology, renewable, sustainable

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RECOGNITION AND DETECTION OF TRAFFIC SIGNS USING CONVOLUTIONAL NEURAL NETWORK

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Recognition and detection of traffic signs have been one of the most important factors and a very crucial aspect for autonomous vehicles and also in the Driver assistance system. If a proper and accurate recognition and detection system is not installed in a vehicle, the information present in signs will not be interpreted correctly and hence it can result in the loss of human life. The need for a good detection system is very important. One of the Deep Learning approaches, an improved convolutional neural network (CNNs) in conjunction with Image Preprocessing Techniques presents a unique solution to recognize and detect traffic signs with state-of-the-art results for building a better Advanced Driver Assistance System (ADAS). The proposed model is evaluated on German Traffic Sign Recognition Benchmark (GTSRB) traffic sign dataset and fine-tuned to capture the minute and fine details and features present in different classes of the traffic sign. which contains in total, more than 52000 traffic sign images. With the enormous size of data, the model was able to achieve testing accuracy of 97.76% and validation accuracy of 99.71% therefore, making the model a useful part of the advanced driver assistance system.

Keywords: GTSRB, convolutional neural network, ADAS, traffic sign recognition, traffic sign detection

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AN IN-DEPTH REVIEW ON PARKINSON DISEASE IDENTIFICATION USING DEEP LEARNING

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Parkinson's disease is a tragedy for retirees because it causes the nervous framework to deteriorate and, as a consequence, the participant's maneuverability. The application's precise involvement in Parkinson's disease significantly increases the chances of preventing it from worsening. The framework can circumvent this by gathering exact data from the individual or by supplying certain sample handwritten patterns, such as spirals or waves. This review article looked at a collection of appropriate publications as a solution. The research demonstrates that the computer vision architecture is the final answer for revealing the Parkinson disease probability by studying the sufferer's hand-drawn image. As a response, relevant papers have been studied in attempt to create an effective recognition system that employs the Region of Interest model to recognize the fuzzy pattern of patients' symptoms. The spiral shapes and accompanying discrepancies are caught using the CNN and Decision Making procedures in the Classification models. Future editions of this study will go through the approach in greater detail.

Keywords: CNN, decision making, parkinson's disease, classification, deep learning

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PROFESSIONAL TRAINING IN THE BEEKEEPING SECTOR: CHARACTERIZATION AND IDENTIFICATION OF NEEDS

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The beekeeping sector is demanding, requires knowledge and updated information to be able to deal with the challenges related with climate change, stress, pollution, and other harmful effects from the surrounding environment. Hence, this work intended to make a characterization of the needs in professional training in the beekeeping sector and how these needs can be fulfilled through courses and other actions to help beekeepers to maintain updated. The work was carried out in seven European countries (Croatia, Estonia, Finland, Italy, Norway, Portugal, Spain, Total), and the data was collected through a questionnaire survey, translated into the native languages in all the participating countries. The results revealed that the topics of highest interest for the beekeepers were apiary health and pest control and also colony management throughout the year. The most relevant sources of information are family and professional training/courses. The most valued forms of training are in-person and in workplace/internships, although the digital supporting resources are preferred instead of printed material. The learning materials most valued were videos but also books/paper manuals were considered relevant. The field visits were also greatly appreciated by the participants, and the most preferred assessment format was the realization of practical exercises. In conclusion, this work produced valuable information that can be utilized to design training actions and course to the professionals in the beekeeping sector to enhance their knowledge and better prepare them to manage successfully their activities.

Keywords: distance learning, mobile-learning, professional learning, beekeeping, survey

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CHARACTERIZATION OF SOME RECIPES INCLUDING HONEY

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Honey is a natural food product used for nutritional, as well as medical purposes since ancient times. This work intended to analyze the use of honey in gastronomy. For that purpose, there were analyzed 150 recipes that included honey as an ingredient. The recipes were classified according to different criteria, namely the dish type, confection method, type of ingredient and the moment that honey was incorporated into the recipe. The results showed that the main dishes with meat and also bakery products were the ones that included more recipes with honey. The majority of the recipes involved cooking methods, with more relevance for roasting, grilling and baking. Moreover, honey was essentially used as a secondary ingredient, except for deserts and it was mostly incorporated in the beginning. The most relevant nutrients that were combined with honey were flour, bread, onion, salmon, chicken, butter, cheese, egg, milk, lemon, pepper, garlic, olive oil, sugar and salt. This work showed that honey has a wide range of applications as an ingredient in gastronomic preparations.

Keywords: honey, recipe, gastronomy, ingredient

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**CULTURE-SPECIFIC LEXICAL UNITS AS A MEANS OF REFLECTING THE REALIA OF THE
WORLD AROUND US (ON THE MATERIAL OF KAZAKH, ENGLISH, RUSSIAN AND
TURKISH FAIRY TALES)**

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Lingua-cultural study explores the relationship between language and culture in their functioning as the "cultural identity" of the nation as a whole, and of a single linguistic personality and describes the structure of the linguistic picture of the world. The interaction of language and culture is especially clearly traced through the functioning of the word-concept in proverbs and sayings, phraseological units, literary texts, folklore. Culturological study of concepts is associated with the study of texts in which these concepts are fixed and verbalized as a reflection of national culture and consciousness. In this regard, the study of the concepts of culture on the material of folklore texts seems to be especially relevant. Folklore is the repository of national culture. Folklore texts are an integral part of the vocabulary of the language, reflecting the specific features of the material and spiritual culture of the people, their national mentality. Fairy tales have a special place among folklore texts. This article is dedicated to analyzing culture-specific lexical units as a means of reflecting the realia of the world around us (on the material of Kazakh, English, Russian and Turkish fairy tales).

Keywords: fairy tale, culture-specific lexical units, realia, lingua-cultural study, language and culture

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ROLE OF EVENTS, FESTIVALS AND CELEBRATIONS IN CREATING A CITY IMAGE

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Cities are constantly evolving and look forward to every opportunity enabling them to grow and have a progressive economy. A high level of competition exists among the cities and countries in portraying a high image. Every city and its communities engage in activities to bring a change to the routine pattern of life. The events, festivals, and celebrations become an important catalyst in the rejuvenation and regeneration of urban life creating an opportunity to build an image for the city. This could have positive or negative impacts on the people, their culture, and the environment. The influence of globally available technologies lets a crisis in the character developed by the city losing the importance of heritage, human values, and local identity. Cities are using the strategy of hosting events, festivals, and celebrations as a means of fast development by attracting tourists, enhancing trade, and developing the economy thereby creating an image for the city. The study focuses on understanding the need for events, festivals, and celebrations for a city along with its advantages and disadvantages and influences over the urban context. Participatory appraisal and field study interpretations were used for case study analysis of Dubai (UAE) events to validate the literature study review . This would enable the stakeholders to channel processes in making the decision for the planning and setting up of celebration spaces with a long-term goal of considering the people, place, culture, and heritage developing an image being a pride for its citizens.

Keywords: events, festivals, celebrations, city image, urban identity

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PERFORMANCE EVALUATION OF SOLAR SHADING & NIGHT VENTILATION AT AN ECO-SENSITIVE HOME, BAITYKOOL-DUBAI, UAE DESIGNED FOR THE EXTREME WARM CLIMATE OF UNITED ARAB EMIRATES

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The windows and doors facing the exteriors on envelope systems of a building are an important source of light and ventilation but become a point of solar heat gain. The size of openings, the operation of shutters for ventilation, orientation, glazing type, and the material of windows and doors influence the solar heat gain and lighting levels indoors. Shading and its integration in the design of envelope systems for openings become effective in reducing the solar heat gain and create the potential to the reduction of cooling load requirement and reduce glare indoors. The paper aims the study and discussion on experiments on solar shading and natural night ventilation at the Baitykool prototype a 90 sq. M eco-responsive, energy-efficient, solar-powered prototype house designed and built for the Solar Decathlon Middle East 2018 presently functioning as a living lab located at The Sustainable City Dubai. Experiments were conducted under varied scenarios of solar shading and natural ventilation using different types of shading devices and architectural actions for external-facing windows, doors, and ventilators under passive conditions to analyze the effectiveness of the thermal comfort condition and potential of energy saving for cooling the house indoors with the use of solar shading for external facing doors and windows. The benefits of natural ventilation at night are analyzed to improve the air quality and temperature indoors taking advantage of lower outdoor temperatures. The data collected for specific dates of the experiment and hours of the day based on the experiments and architectural actions analyzed and results discussed to understand the benefits of night ventilation and cross ventilation on indoor air quality. The potential for a reduction in the use of air conditioning systems to cool the indoors during the day helps develop the annual cooling strategy with potential energy-saving measures.

Keywords: solar shading, night ventilation, thermal comfort, energy efficiency

PUBLIC-PRIVATE PARTNERSHIPS IN ENERGY PROJECTS IN LOW- AND MIDDLE-INCOME COUNTRIES AND DECARBONIZATION OF THE GLOBAL ECONOMY

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Decarbonization of the world economy by 2050 is impossible without a significant increase in the energy efficiency of the economies of developing countries. Nowadays, developing countries are transforming and expanding their energy systems, solving the problems of energy poverty of the population, developing energy-intensive industries, which generally leads to an increase in energy consumption on a global scale. With tight budget constraints, developing countries are predominantly using the public-private partnership (PPP) model to finance their energy infrastructure development needs. Therefore, the choice of technologies for implementation in the framework of PPP projects can have a significant impact on changes in the energy efficiency of the country's economy in general. The purpose of this study is to assess the effectiveness of PPP projects in the energy sector in middle- and low-income countries in terms of improving energy efficiency. The information base of the study was the Private Participation in Infrastructure (PPI) database, which contains panel data on PPP infrastructure projects in 137 low- and middle-income countries for the period from 1990 to 2016. The Data Envelopment Analysis methodology is used to evaluate the effectiveness of PPP projects. As inputs, we consider the number of PPP projects in the energy sector implemented on the territory of the country for the period 1990-2016 and their total funding. Changes in a country's energy efficiency and carbon intensity from 1990 to the present are considered as outputs. The BCC model with output orientation is considered. The coefficients of technical efficiency and efficiency by scale are calculated. The study revealed that the projects in the Kyrgyz Republic and Lesotho were the most efficient in terms of increasing the energy efficiency of the economy and reducing carbon intensity. For other countries, target parameters for increasing the energy efficiency of the economy were calculated and strategies were proposed.

Keywords: energy economics, energy policy, dea approach, energy-efficiency

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NETWORK DATA ENVELOPMENT ANALYSIS FOR MODELLING HYDROGEN ENERGY LIFE CYCLE

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Nowadays hydrogen energy is considered as one of the most efficient ways of decarbonization of transport. The world community imposes high requirements on the conditions of hydrogen production using the classification "brown" - "blue" - "red" - "green", depending on whether fossil fuels, nuclear or renewable energy used in the hydrogen production. The main criterion for evaluating hydrogen energy technologies is the amount of carbon dioxide emissions during the entire life cycle. Life cycle of a hydrogen energy also includes storage and transportation to the place of direct use. The technologies of hydrogen transportation are pipeline transport, various modes of transport in a liquefied or compressed state, in the form of ammonia or liquid organic carriers. Considering the existence of several options for the production and transportation of hydrogen, there is a large number of variations of the technological chain "production"- "transportation". For each variation the carbon footprint, parameters of economic and social efficiency must be calculated. The main goal of the study is to develop tools for modeling and forecasting complex ecological and economic effects of various options for a technological chain for the production, storage and transportation of hydrogen based on the integration of the methodology of data envelopment analysis (DEA) and the methodology of hybrid life cycle analysis (hybrid LCA). Social, economic and environmental parameters integrate into a single comprehensive performance indicator for each supply chain by network Data Envelopment Analysis (NDEA). NDEA approach helps to decompose the tasks of assessing economic and other types of efficiency (including environmental or social) into separate stages. At each stage, a separate environmental DEA task is solved, then considering N possible options for hydrogen production and M possible options for its transportation, the number of objects in the reference set for which the DEA problem is $N \cdot M$.

Keywords: hydrogen energy, economics, network DEA, LCA, social LCA

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RIISING SOCIAL INEQUALITY DRIVEN BY THE DIGITAL DIVIDE

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This article analyzes the digital divide between Russia and developed countries and between the regions of Russia. A significant obstacle to forming a digital society in Russia and its integration into the system of the world information space is the asymmetry in the informatization level of the population-digital inequality. The digitalization of the economy and society leads to the infrastructural and technological digital divide manifesting itself in various spheres of life. We analyzed approaches to the definition of "digital divide" and "digital gap" associated with multiple dimensions of inequality in the digital space. The digital divide is considered inequality in access to infrastructure and inequality in the availability of digital skills and competencies. We performed logical, comparative, and statistical analyses. This article analyzes the key indicators of digitalization in modern Russia based on data from domestic and international statistical organizations. We can conclude that there is a digital divide among Russia's regions in certain areas. The risk of digital inequality and the emergence of the so-called "Matthew effect" is increasing in Russia. A significant risk is associated with the uneven use of the benefits of digitalization in critical areas of life, such as medicine and education in lagging regions, which can lead to increased social inequality. The digital divide currently observed in the Russian Federation is significant between the population living in rural areas and cities. The problem of digital divide at the national level is relevant to many countries. Its aggravation can lead to severe consequences for the economy and society. In this regard, it is necessary to address the issue of infrastructure development and the population's motivation for the competent use of technology.

Keywords: digital divide, digital gap, regions of russia, information and communication technologies, social inequality, digital economy

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ENVIRONMENTAL STRATEGIES OF INDUSTRIAL PARKS IN RUSSIA

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The concept of eco-industrial parks is based on the idea of reducing ecological footprint by replacing toxic materials, using carbon dioxide absorption technologies, integrated waste treatment, reusing materials and maximizing energy efficiency in the design and construction of industrial facilities. This concept has not yet become widespread in Russia, but now industrial parks and technology parks are developing in the country. The purpose of this study is to analyze the environmental aspects of the design and operation of industrial parks and technoparks. The distribution of Russian technoparks and industrial parks by types, kinds and regions of the country was examined. The work analyzed more than 1000 official websites of industrial parks and technology parks in Russia, which are at different stages of development and identified a few cases of technoparks and industrial parks that have implemented an environmental policy and environmental management system. As a result of the study, it was concluded that the concept of an eco-industrial park has not yet been applied in Russia; only 1% of industrial parks in the country have a clearly defined environmental policy. However, this situation can be changed by introducing a system of voluntary certification of eco-industrial parks, which may include the requirements, similar to Chinese, Italian and other national IEP standards.

Keywords: industrial park, technology park, technopark, eco-industrial park, environmental policy, environmental standards

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UNDERSTANDING USER ACCEPTANCE OF FINTECH MOBILE PAYMENT SERVICES IN INDONESIA: A STRATEGY TO INCREASED USAGE USING UTAUT AND TTF MODEL

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The COVID-19 pandemic has transformed the way people interact with technology and conduct transactions. As cashless transactions become increasingly important, digital payment applications have experienced a significant surge in usage worldwide. The objective of this study is to identify the factors that influence user acceptance of fintech applications in Indonesia using UTAUT and TTF. The findings indicate that usability, ease of use, perceived self-control, and perceived trust have a positive and significant impact on users' intention to use fintech applications. However, perceived security does not appear to have a significant influence on users' intention to use fintech applications. Data were collected from active users of digital payment app. Findings indicate that app experiences generate usability, ease of use, perceived self-control, and perceived trust among active users of the app. This research provides a valuable contribution to understanding the factors that affect the acceptance and use of fintech applications in Indonesia. For fintech businesses, this research may assist fintech application developers in enhancing application features and functionality to better suit user needs and preferences.

Keywords: user experience, unified theory of acceptance and use of technology, digital payment, product designer, product management

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CYBERBULLYING AMONG YOUTHS IN MALAYSIA

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Cyberbullying is a relatively recent phenomenon that can have significant consequences for young people's wellbeing due to the specific technological affordances of social media. An online questionnaire survey was conducted, and there were 50 respondents. The study collected demographic profiles, social media usage, cyberbullying experience, attitude towards cyberbullying, and suggestions to curb cyberbullying in Malaysia. Rule and Act Utilitarianism are used to solve the ethical problem, cyberbullying. Even though Malaysia has no specific law against cyberbullying, there were particular laws such as the Computer Crimes Act 1997, the Communication and Multimedia Act 1998, and the Penal Code to combat cyberbullying. In this paper, a solution was highlighted: raising awareness campaigns to educate and nurture society's ideals. Awareness campaigns, whether traditional (poster or bunting) or interactive (mobile apps, virtual reality, or augmented reality), all have the same goal of educating the population, to prevent cyberbullying. Hopefully, it can benefit any concerned parties in developing concrete strategies to reduce cyberbullying cases among youth in Malaysia further.

Keywords: cyberbully, youths, social media, computer crime act, cyberbully experience

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EVALUATING TIKTOK'S SOCIAL MEDIA FROM ISLAMIC PERSPECTIVES USING TECHNOLOGY ACCEPTANCE MODEL

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TikTok has become the most popular platform among younger people in 2020. TikTok is used by some people to express their ideas, advertise their businesses and so on. With a vast variety of possibilities, the platform encourages its users to create content. Digital technologies and platforms such as TikTok give social media influencers and other users the chance to make, consume and share religious content with different online communities. The aim of this study is to examine the relationship between perceived usefulness, perceived ease of use and perceived Islamic ethics on the adoption of TikTok application, using the Technology Acceptance Model (TAM). Method used in this study is survey and the data is analysed quantitatively including descriptive data analysis that included data reduction, data visualisation and drawing the inferences. Related findings show using frequency distribution on 196 respondents (N=196), 92 respondents strongly agree that TikTok has to respect the users' privacy by not disclosing any personal information to third party. Besides, 103 respondents strongly favor TikTok to have the element of privacy so the users will not simply interfere with other people's matter. Also, result reports value of $r=0.813$ where the positive linear relationship is significant at the significant level of $p = .000$. This showed that there is a strong positive linear relationship between perceived of usefulness and perceived of Islamic ethics among Muslims' users on TikTok. Future research would be analysed using qualitative approach.

Keywords: TikTok, social media, Technology Acceptance Model (TAM), Islamic ethics

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IMPLEMENTATION OF NEW EDUCATION POLICY IN INDIA AND THE PROSPECTS OF TRANSFORMATIONAL FEMALE LEADERSHIP IN INDIAN HIGHER EDUCATION

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To investigate to what extent the stakeholders believe in females having attributes of transformational leadership to rise at higher positions in institutions of higher education in India while implementing New Education Policy in India. To know where we are right now and where we need to go in terms of promoting female leaders in Indian higher education. Both qualitative and quantitative methods are used. Qualitative responses from 10 Indian women leaders are collected from those 03 qualitative responses are quoted in the paper and considered in the analysis. MLQ* tool (Multifactor leadership Questionnaire) used to collect responses of 100 different stakeholders of higher education. The study shows that female leadership can be trailblazing in organizational management in institutions of Higher Education in India while implementing the New Education Policy. The results anticipate providing insights to initiate Indian policymakers and recruiting bodies to motivate women to take up leadership positions. The area of the prospects of transformational female leadership in Indian higher education in the context of implementation of New Education Policy in India is a novel exploration as education policy is implemented recently in 2020 and gender equity is a major aspect of concern in achieving sustainable development goals.

Keywords: female leaders, higher education, transformational leadership, organizational management

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CASE BASED LEARNING IN THE UNDERGRADUATE CHEMISTRY LABORATORY USING HPLC ANALYSES OF CBD PRODUCTS

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In case-based learning, students develop and apply course knowledge to solve tangible and “real life” problems. This practice can enhance student motivation and engagement in the analytical laboratory. In this application of case-based learning students analyze commercially available oils for CBD content. In the state of Texas anyone can sell CBD products. Many of these products are advertised as natural alternatives to prescription medications. The products are advertised as natural alternatives to prescription medications and make unfounded claims to treat conditions like chronic pain, depression, anxiety, insomnia, diabetes and psychosis. However, these claims are not recognized by the U.S. Food and Drug Administration and lax labeling and licensing regulations create situations where consumers may not know what CBD content is present in the product. In this online presentation the CBD content in various products will be discussed along with the necessary chemical analysis tools, analytical method, and chemical standards to perform the analysis.

Keywords: science education, chemistry, HPLC

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HIGH SCHOOL STUDENTS' ATTITUDES TOWARDS LEARNING GENETICS AND BELIEF IN GENETIC DETERMINISM

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Students in high school tends to find genetics difficult to learn because it requires some crosslinked knowledge about subject like genes, proteins, cell, tissues as well as organs and systems. It also becomes more difficult to connect and explain concepts such as the gene expression at the level of the cell to conceptualize the effect of the gene at the level of the organism. On the other hand, despite the fact that molecular genetics has progressed rapidly, its reflection in textbooks or even the qualifications of teachers in relation to the latest findings in genetics, have not responded to this pace. Here we present a survey study of Albanian high school students (grades 10-12, ages 15-19) on their attitude study genetics and their beliefs towards genetic determinisms. A number of 274 students participated in the survey, from 8 different public and private schools in the country. The response was higher than 90% for each group, 58.4% of the respondents were females, 32.6 .0% were males and 4.1% did not answer. The mean age of the respondents was 16.8 (\pm 1.8) years. Students found genetics interesting, and relevant but also a difficult topic in biology (respectively: 36.5%; 33.2%: 39.2%). Their responses showed positive attitudes towards gene technology and acceptance of the use of gene editing (51.4%). Students' perception of the utility of genetics did not differ among them; female and male students had significantly different responses along attitude factors, however liking genetics was the only factor without gender difference. Our study suggests that in general students liked to study genetics and they had mostly favorable attitude towards gene technology. They are not completely convinced of genetic determinism; this is also made possible by updated books. A complete study combining the textbooks, the knowledge of the teachers, and their approaches are needed.

Keywords: education, survey, genetic determinism, genetics, students

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DEVELOPING EMPLOYABILITY SKILLS THROUGH OUTDOOR EXPERIENTIAL LEARNING: TOWARDS MARKETABLE GRADUATES

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The National Education Philosophy of Malaysia (1988) seeks to cultivate caring, knowledgeable, competent, honourable, and responsible citizens who can achieve their own wellbeing for the society to develop the nation. On the same trajectory, The Malaysian Education Blueprint (2015) emphasises the development of employability skills among university students to prepare them for their future work life. Both policies aim at producing students who are well-balanced in various dimensions such as intellectual, emotional, physical, and spiritual skills. In order to increase the marketability of our graduates, Malaysian universities are working on different ways to encourage their students to acquire employability skills. This study focuses on three employability skills - leadership, teamwork, and communication skills. The objective of the study is to examine the effectiveness of an employability skills-oriented three-day outdoor camp (EOC) in developing these three employability skills. The theoretical framework underpinned this study is the theory of experiential learning. A single-group experimental study was carried out to investigate if EOC aids in developing students' employability skills. A survey was carried out before and after the EOC experience on a total of 43 students from a Malaysian private university. The results of this study found that EOC is effective in developing leadership, teamwork, and communication skills among students.

Keywords: employability skills, outdoor education, energy, sustainability, experiential learning

REDEFINING THE ANDRAGOGICAL PRINCIPLES FOR MALAYSIAN TEACHERS: AN INTERPRETATIVE PHENOMENOLOGICAL ANALYSIS

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The Common European Framework of Reference for Languages (CEFR) was first introduced in the Malaysian Education Blueprint 2013-2015. It has then changed tremendously the landscape of teaching and learning of English language in Malaysian institutions. Research has been conducted specifically on teachers and students, but many of the studies conducted are issues related to textbooks, anxiety, and challenges. Besides, quantitative methods were used to gather the information needed. Little is done on career development from a qualitative perspective. On a similar trajectory, this paper tries to fill the gap by researching teachers' lived experiences in terms of teaching the CEFR-aligned curriculum. In this study, we focus on the Malaysian University English Test (MUET) – a specific context in the Malaysian education landscape. MUET is a high-stake test because it is a requirement for entering universities. This paper differs from existing literature because we focus on the lived experiences of the teachers, specifically on andragogy and the teachers' career development. The research methodology used is Interpretative Phenomenological Analysis (IPA) developed by Smith, Flowers and Larkin (2022). The theoretical framework underpinning this study is the theory of andragogy developed by Swanson (2022) – especially the first principle of andragogy – the learners' need to know. Data was collected through semi-structured interviews. Data was then analysed using ATLAS.ti. Personalised Experiential Themes (PETS) and Group Experiential Themes (GETS) were then generated. The finding has shown that teachers in Malaysia are willing to learn and re-learn the CEFR-aligned MUET in order to advance their careers. They also viewed that this educational reform provides an avenue for them to develop themselves professionally. Finally, we redefined the first principle of the andragogical model. The model has implications for the career development of the teachers hence responding to the fourth goal of the Sustainable Development Goals (SDGs).

Keywords: andragogy, career development, MUET, energy, SDGs, CEFR, educational management, human resource development

FACTORS RELATED TO STUDENTS' SATISFACTION WITH SOCIAL CONSTRUCTIVIST LEARNING ENVIRONMENTS ON THE EDUNEXT PLATFORM

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The outbreak of the COVID-19 pandemic along with the gradually changing educational trends facilitate transformation from traditional learning methods to digital learning methods. Besides, student satisfaction is vital in remote education course evaluations because it is associated with the quality of online programs. Recently, the EduNext platform has been created based on Vygotsky's social constructivism (1978), which intends to provide an educational technology for socially constructive learning. The authors tested the correlation of undergraduate students' satisfaction and perceived usefulness, perceived ease of use, and factors related to cognitive presence namely triggering event, exploration, integration, and resolution. The participants included 186 students at a private Vietnamese university who participated in at least a course on EduNext. The instrument employed in the quantitative phase was 22 items from Technology Acceptance Model (TAM) (Davis, 1989), cognitive presence items (Garrison et al., 2010; Shea & Bidjerano, 2008; Swan et al., 2008) and student satisfaction (Ejubović & Puška, 2019). The qualitative phase used semi-structured interviews with 10 students individually. The finding revealed that there is a positive correlation between student satisfaction and perceived usefulness, resolution, and triggering event while the others viz. perceived ease of use, exploration and integration did not affect satisfaction with courses on EduNext platform. Based on the research findings, study implications and potential research paths have been proposed.

Keywords: social constructivist learning, TAM, COI, cognitive presence, student satisfaction, EduNext platform

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FACTORS AFFECTING UNDERGRADUATE STUDENTS' ADOPTION OF MASSIVE OPEN ONLINE COURSES (MOOCS)

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Khanh Nguyen

Cantho FPT University, Vietnam

Lam Mai

Cantho FPT University, Vietnam

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The present study does have a great contribution to Vietnamese higher education institution that adopted blended learning using Coursera MOOCs especially blending the courses with offline mentoring in brick-and-mortar classrooms. In the current study, the perceived value of construct of the extended UTAUT2 model with additional variables of language competency and teacher influence were used to examine undergraduate students' MOOC adoption at a private Vietnamese higher education institution. This study was conducted via an online survey with 322 students who participated in at least one Coursera MOOC. The quantitative instrument consisting of a 36 items questionnaire was adapted from the UTAUT2 model Venkatesh (2003) and Venkatesh (2012); the construct of language competency and teacher influence were adapted from Barak et al. (2015) and Sebastianelli et al. (2015) respectively. The findings revealed that there was a correlation between performance expectancy, effort expectation, social influence, facilitating condition, hedonic motivation, price value, habits, language competence, teacher influence, and students' behavioral intention for continued use of MOOCs. More importantly, while social influence, hedonic motivation, price value, habits have a strong impact on MOOC adoption, the variables of performance expectancy, facilitating condition, language competency, and teacher influence unexpectedly do not have any effects on behavioral intention of undergraduate students towards MOOC adoption. From the findings, implications and future suggestions of the research have been presented.

Keywords: blended learning, MOOCs, UTAUT, higher education, EFL student

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ARTIFICIAL INTELLIGENCE APPLICATIONS USED IN ON-LINE RETAIL IN CHINA AND THEIR RELATIONSHIP TO CUSTOMER SATISFACTION AND LOYALTY

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Artificial Intelligence is the creation of intelligent computers and smart computer algorithms that helps machines to understand human intelligence (IBM Cloud Education, 2021). Artificial Intelligence is created by analyzing behavior and patterns of big data. Artificial intelligence has existed since 1950s (Song et al, 2019) but during recent times application of AI in various sectors like healthcare, business, entertainment, education, weather, and geology has picked up momentum. To cite a few well-known examples of Artificial Intelligence technology that are used by almost everyone in our day-to-day activities will be advanced google searches, YouTube recommendations and Alexa (Song et al, 2019). The advent of technology has brought about innovation and transformation to every aspect of the business world, including the retail industry. The shift in the retail sector becomes obvious when big brick-and-mortar retailers scale down their physical shops and gradually move part of the business online. Consumer attitudes towards online shopping can vary based on demographics, perceived risk, perceived ease of use, and perceived usefulness. Demographic characteristics can further be classified as sex, age, educational qualification, household income, and relationship status, to name a few. In this study, the aim is to identify artificial intelligence applications and their use in online retail by Chinese consumers. A model has been developed to test the relationships between artificial intelligence applications used for online shopping and customer satisfaction and loyalty.

Keywords: artificial intelligence, on-line retail, Chinese consumer, customer satisfaction, customer loyalty

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COVID 19 AND NEW APPROACHES IN PROSTHODONTICS

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The global pandemic spread of COVID-19 has put the health care in a new prospective. The dental studio is considered one of the most spreading environments due to concentration of aerosol. Due to this ongoing crisis, patients couldn't access the dental visits even though their needs. Partial or complete edentulism is very prevalent in the geriatric population and prosthetic management of these patients is essential for their well-being. The purpose of the study is to analyze common prosthetic emergencies and provide recommendations to manage these issues during the COVID-19 pandemic. Objectives: 1. To evaluate strategies on the control of COVID-19 infection in a dental clinic during prosthetic manipulations 2. To access the possible transmission routes of COVID-19 in dental prosthetics clinics 3. To examine dentists' personal experiences of the impact of the pandemic in the prosthetic field. 4. To examine the statistically significant difference between the impact of prosthetics on dentists and patients during COVID-19. Medical scientific articles and books were used for the literature review and two categorized questionnaires for patients and dentists were used for the exploratory-descriptive study. In both study groups we have a report of an increase in the cost of prosthetic services, alternation of prosthetic sessions both in duration and frequency, an increase in preventive protective measures reported in the same values with 71% among dentists and 73 % in patients. During the COVID-19 pandemic, the costs of services and materials and the applicability of prosthetic techniques have been respectively high and difficult, especially for young dentists, and has reflected in the increase in the cost of prosthetic services in patients.

Keywords: coronavirus, COVID-19, prosthetic, aerosol infection

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CANDIDA STOMATITIS IN PATIENTS WITH DENTURES IN ALBANIA

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Candida stomatitis is a widespread pathology, not only in Albania, but also in many other countries of the world. The main cause is *Candida albicans* (93%), which is located on the inner surface of the prosthesis in contact with the mucous membrane of the palate. The purpose of this study is to determine the occurrence of candida stomatitis in prosthesis-bearing patients according to the type of prosthesis and the time of its occurrence. This study was carried out by studying the cases that would be treated with prosthetic works in the Department of Orthopedics in the period October 2021 - May 2022. Data collection was done by creating a type card. The card contains general information about the patient's morbidity and special information about previously used prostheses. Out of 303 patients who presented to the clinic in the period October 2021 - May 2022, the presence of candida stomatitis was observed in 13.2% (40) of them. Of these, 8.5% (26) were female and 4.9% (15) male. The prevalence of candida stomatitis in patients with removable upper dentures was analyzed based on: patients' age, gender, type of dentures and duration of their wear. The etiology of candida stomatitis is multifactorial. The factors influencing its occurrence are local and systemic factors. The pressure caused by the prosthesis, wearing them all the time, reduced salivation, poor oral hygiene, the type of material with which the prosthesis is made and the long time of wearing them are listed as important factors in the appearance of this pathology.

Keywords: *Candida albicans*, dentures, health science

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VARIANT ALLELES AND TRI-ALLELIC PATTERNS OBSERVED IN SHORT TANDEM REPEAT (STR) TYPING OF ALBANIAN POPULATION

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Background: During STR typing, it sometimes happens that increasing or decreasing signal length can bring variant alleles into the size range of a locus close to it. Examples of these alleles are often reported in the literature and are also stored in STRbase. When the allele overlaps with an allele adjacent to it, the situation becomes more problematic. The kits available are designed to avoid such problems called "out of phase" in relation to the repeat units. **Aim:** To identify and report these rare, off-ladder alleles, triallelic and other genotyping irregularities related to the rare population genetic variation observed in STR of Albanian population. **Methods:** DNA was extracted from saliva swabs relating to reference samples from a sample of 2000 individuals from Albanian population, and typed using Applied Biosystem AmpFLSTR™ NGM SElect™ kit. **Results:** There were 6 distinct off-ladder alleles were observed in 4 of the 16 STR loci (D2S1338, FGA, SE33 and D2S441) amplified from the AmpFLSTR™ NGM SElect™ kit). Of these 6 alleles, 1 have not been previously reported. Furthermore, 17 instances of triallelic patterns were observed in 6 of the 16 loci. **Conclusions:** In this study we present an overview of distinct off ladder alleles in our population. The recognition and identification of these rare alleles, helps to solve specific situations and has a special importance in cases of paternity tests. Those results are also important to understand the genetic structure of the population in terms of autosomal STR loci.

Keywords: STR loci, off-ladder alleles, forensic, Albania

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**IN VIVO EVALUATION OF THE ACCURACY OF THREE IMPRESSIONS MATERIALS,
COMPARISON BETWEEN POLYETHER(PERMADINE) AND ADDITION SILICONE
PVS(COLORISE, HYDRORISE)**

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All prosthetic treatments are characterized by a sequence of well structure clinical and laboratory steps, during which different kinds of impressions are required. The aim of this study was to evaluate and to compare the accuracy of different impression materials, their ability to reproduce details, using a measuring microscope. Three types of impression materials were used to take the impression of the same reference point on the composit restauration on the second molar. Results of this study show that all three impression materials demonstrated greater characteristics if they are treated correctly before and after the taken of impression, according theirs manufacturer's instruction and if we respect the storage time and the casting time. If we can't respect the storage time, we ought to choose the vinilpolysiloxane. Quality and the accuracy of the impression is affected by pouring and storage time in order to obtain a greater accuracy of stone casts.

Keywords: dental materials, impression materials, prosthodontics, restauration

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**IN VIVO EVALUATION OF THE ACCURACY OF TWO IMPRESSIONS MATERIALS,
COMPARISON BETWEEN IRREVERSIBLE HYDROCOLLOID(ORTHOPRINT) AND
POLETHET(PERMADINE)**

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All prosthetic treatments are characterized by a sequence of well-respected protocols clinical and laboratory steps, during which different kinds of impressions are required. The aim of this study was to evaluate and to compare the accuracy of different impression materials, their ability to reproduce details, using a measuring microscope. The methods used for this study were to take impressions with two types of impression materials of the same reference point on the direct composit restauration performed on the second molar of the upper jaw. Results show that the two impression materials demonstrated greater characteristics if they are treated correctly before and after the impression is taken,according their manufacturer's instruction and if we respect the storage time. The quality and the accuracy and the ability of the impression materials affected by pouring time and storage time in order to obtain a greater accuracy of details in the stone casts.

Keywords: impression material, dental cast, prosthodontics

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CONSUMERS' OIINON REGARDING THE USE OF DOGGIE/TO-GO BAGS AS A STRATEGY TO REDUCE PLATE WASTE IN RESTAURANTS

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The consumers' plate waste in restaurants is an extensive source of out-of-home plate waste. One strategy to reduce this waste is to use doggie/to-go bags. Although the term is known in Europe, there are still social norms in many European countries, which inhibit the consumers to use doggie/to-go bags. Doggie/to-go bags are containers or bags in which consumers can take home uneaten food to consume later. In this research, we surveyed a number of two hundred consumers from Republic of Moldova to explore their opinion regarding the use of doggie/to-go bags as measure to reduce out-of-home plate waste. Although the consumers approve of doggie/to-go bags, they are resistant to take a doggie/to-go bag from restaurant. Of the 200 respondents, 78% reported that there isn't enough food leftover to justify using a doggie/to-go bag, 77% of them said they usually eat all of the food, whereas 48% are too embarrassed to ask for one. This study concurs to literature on out-of-home plate waste, providing viable insights for the foodservice sector.

Keywords: consumer, restaurant, plate waste, doggie/to-go bags

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ANTIMICROBIAL INFLUENCE OF PULSED ELECTRIC FIELD: A REVIEW

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Different emerging technologies have been developed in the foods manufacturing context due to the increase of consumers' requirements for high sensory and nutritional quality foods. Amongst these, the Pulsed Electric Fields (PEF) not only prove the microorganisms inactivation with maintaining of the foods' sensory attributes, but also have the ability to revolutionize the food processing (enhance the active compounds extraction, reducing the salt content), the bioprocessing industry (direct gene electrotransfer), and medicine (tissue ablation). Successful of microbial inactivation by PEF depends strongly by some factors, such as: biological factors (cell arrangement; density, size, shape, and cell type), physico-chemical characteristics of the treated fluids (ionic strength, conductivity, and pH), distance between the working electrodes, and the electrical parameters (number and frequency of the electric pulses, amplitude, shape, and action time). The objective of this review article is to focus attention on some aspects connected to the factors that influence the effects of PEF on the microbial cells. It is supposed that the scientific information submitted in this paper should open new research vistas aimed at putting into practice this electrotechnology at large food bioprocessing scale.

Keywords: food, Pulsed Electric Fields, antimicrobial, technology

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E-LEARNING TECHNOLOGIES IN CONTINUING MEDICAL EDUCATION OF FAMILY DOCTORS IN UKRAINE: CHALLENGES AND OPPORTUNITIES

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Continuing medical education faces new challenges and the need for improvement. The active development of technology since the middle of the 20th century has changed the requirements for education in view of the demand for knowledge-intensive specialties. Analysis of the state of scientific elaboration of the problem of e-learning in Ukraine and the experience of its implementation in the practice of higher education showed that despite some achievements, this pedagogical problem needs further research. E-learning improves postgraduate training of doctors. The main purpose of teaching in postgraduate education is to achieve high-quality practical training based on knowledge, skills, and abilities in traditional and modern educational technologies. E-learning is a promising form of pedagogical technologies in the field of medical education, as it is more flexible and corresponds to modern realities of society. The implementation of various online resources in the training of health professionals in quarantine activities related to the COVID-19 pandemics well as during the war, highlights the problem of information literacy and the use of information technology among physicians of all ages and psych types, and shows that the latest resources of telecommunications and computers. computer technologies should be widely implemented in all areas of health care.

Keywords: continuing medical education, family doctors, e-learning, information networks

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CURRICULUM DEVELOPMENT PROCESS WITH PERSONALIZED LEARNING MODEL IN EARLY READING FOR AUTISM SPECTRUM DISORDER STUDENTS

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Reading can be a way to increase students' social interaction and writing, especially for the need to continue to a higher level of education. Students with Autism Spectrum Disorder (ASD) show deficits in reading skills. Recent research shows that there is heterogeneity in this population, which is accompanied by a lack of personalized learning facilities. That way, there is a gap between students, learning, and the support they need. This research aims to produce a curriculum design based on personalized learning with the help of interactive media in beginning reading skills. The curriculum development model used is the Nicolls model. The results of the study show that curriculum development using the Nicholls model can be used for curriculum development in Special Schools (SLB). This is because the model emphasizes contexts and situations where curriculum decisions need to be made. In addition, the results of a limited trial show that this curriculum design is effective for students with ASD. This can be seen from the increase in student learning outcomes in beginning reading skills, especially in introducing words, syllables, and letters. Future research is described in this paper.

Keywords: curriculum development, personalized learning, autism spectrum disorder, early reading, sas method

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AN EXAMINATION OF REPRODUCTION AND DEVELOPMENT IN SECONDARY SCHOOL BIOLOGY CURRICULA: TÜRKİYE AND GERMANY

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Biology, a living science, is known as a balance and complement among other branches of science. Just like the science of biology, biology as a course also plays a very important role among other courses at all school types and grades. It is thought that the adults of the future should not be deprived of knowledge in the field of biology and should use every correct information they have acquired in their daily life to overcome related problems they may encounter. For the change that occurs in the individual's life to be permanent, the way to effective education is through a curriculum developed with socio-cultural, scientific and technological developments, taking into account the conditions of the country. For example, comparing other countries' educational practices and curricula based on the results from international assessments such as PISA TIMSS. According to the PISA science scores (2018), Germany has performed above the average determined by the OECD. Therefore, current education programs in Munich are discussed as an example in this research. This study adopted document analysis, one of the qualitative research methods, as the methodology. The "2018 Secondary Education Biology (9, 10, 11 and 12th Grades) Curriculum" published by the Ministry of National Education in Türkiye and the "Biology Curriculum of Germany" published by Kultusministerkonferenz were examined. While examining the documents in the study, they were subjected to content analysis. According to the findings, As in Bavaria, instead of encouraging rote learning regarding these topics for the sole purpose of university entrance purposes, Türkiye should include in curricula or teach in seminars the social and ethical aspects of HIV/AIDS, sexual/reproductive health, adolescent development, transmission and prevention of diseases, reproductive drug diagnostics, biomedical processes, opportunities, and risks. As a result, there are some differences in terms of content in the curriculum of both countries.

Keywords: reproduction, development, reproductive health, biology curriculum, comparative education

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**ANALYZING THE RELATIONSHIP BETWEEN SCIENTIFIC PUBLICATIONS AND
RESEARCHERS' VARIABLES: A SCOPUS-BASED STUDY OF A PRIVATE ECUADORIAN
UNIVERSITY**

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Research enables progress in science. Scientific publications are one of the means used to share the advances found in research. Ecuador has had a substantial increase in its scientific production in recent years. In this context, the article aims to examine the relationship between scientific publications and variables of Ecuadorian researchers using the affiliation of the Universidad Técnica Particular de Loja (UTPL). For this purpose, the Scopus® database was analyzed from 2010 to 2022. The growth in the number of publications started mainly due to state legislation, which mandated the need to publish research. This decision led to an increase in research being conducted in academia. The different groups analyzed showed differences; therefore, the university should have a differentiated strategy for each group. The procedure detailed in the article can serve as a reference for other institutions or for those who wish to evaluate the performance of their faculty. Publications bring prestige to both faculty members and institutions, but the main focus of research should not be lost.

Keywords: scientific publications, researchers, university, Scopus, productivity, Ecuador

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ENVIRONMENTAL IMPACT OF COMPOSITE MATERIALS

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Composite materials are, nowadays, a matter of common use and knowledge but their influence upon the environmental balance needs further research and discussions. A topical problem regarding the impact of composite materials on the environment in correspondence with the human factor is that this goal can only be achieved by taking the correct measures to reduce or eliminate negative effects. Due to the ever-increasing needs of raw materials and the concerns of reducing prices, our research aims at comparing traditional materials with composite materials in order to assess the environmental impact, either positive or negative, while trying to provide guidance on how negative impact can be minimized. Usually, traditional materials show a chemical instability, suffering corrosion or significant degradation processes over time. In the context of sustainable development, the biodegradability of traditional materials raises important issues. However, there is the problem of the high consumption of energy included in the production of these materials, but also of the often too high price of the production technologies. Since the impact generated by the use of these types of materials is significant, both in the period of production of the raw materials that form the composite materials, and in the period of their use within some finished products, in the present work the aim is to improve the impact thus produced can only achieve by taking correct measures determined on the basis of a complex environmental impact analysis. Nevertheless, composite materials represent new territory still waiting to be fully discovered. The multiple ways of manufacturing processes, the novel applications, the high problems of optimizing the manufacturing process by considering the reduction of energy consumption and implicitly the reduction of pollution, are factors that make composite materials a fascinating stage of current science and technology.

Keywords: composite materials, traditional materials, environmental impact

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**VALIDATING THE DRIVERS AND BARRIERS OF CIRCULAR ECONOMY
IMPLEMENTATION ON THE INDONESIAN SMALL MEDIUM ENTERPRISES IN FOOD
AND BEVERAGES SECTOR**

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In the implementation process of circular economy initiatives, many companies face several challenges in adopting the circular economy model in their business entirely. A suitable strategy is needed for a circular economy implementation. One of the ways to build the strategy is by understanding the circular economy implementation drivers and barriers. This work aims to identify the drivers and barriers of a circular economy implementation in Indonesian Food & Beverages (F&B) Small and Medium Enterprises (SMEs). The validation process starts through an extensive literature review and then employs a Modified Kappa method to examine the factors, incorporating experts from industry, non-governmental organizations (NGOs), academia, and government. The result shows eight drivers and fifteen barriers for the implementation of a circular economy in Indonesian F&B SMEs. These drivers and barriers are grouped into three dimensions, namely Economy, Social, and Environment. The output of this research might support the stakeholders in facing the issues regarding the feasibility of circular economy practices.

Keywords: circular economy, drivers and barriers, food and beverages, small medium enterprises

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FACTORS PROMOTING STUDENT AGENCY AND COMMUNITY ENGAGEMENT: CASE OF A LEBANESE SECONDARY PUBLIC SCHOOL

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OECD (2019) defined student agency as the ability to set goals, reflect, and act responsibly to bring about change. It is the quality of students' engagement and interaction with peers, teachers, parents and the wider community. The purpose of this research is to investigate and track the factors of promoting a student agency and community engagement leading the change. Thirty Students at a secondary public school were trained on STEAM activities such as: coding, robotics, electronics, crafts and 3D printing. Students took the initiative with continuous encouragement and facilitation from the administration and teachers to build a student's agency through which they lead a community- based STEAM laboratory. This case study will use interviews, observations, document analysis and focus groups in order to track the students' progress leading the change. A self-reflection questionnaire will be administered in order to measure agentic processes. The results of this study will inspire policy makers and school principals to promote student agencies and community involvement.

Keywords: student agency, community, STEAM, secondary public school

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THE DEVELOPING SUPPLY CHAIN RESILIENCE STRATEGY FOR LOGISTICS SERVICE PROVIDER INDUSTRY IN INDONESIA

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Globalization in an increasingly advanced era without any restrictions on movement has encouraged the movement of goods. The development of the movement of goods encourages growth in demand for logistics services activities. Among the growing business fields in Indonesia, the logistics services industry has the highest growth opportunity among other business fields. At the same time, developments in business processes have the potential to be in a state of uncertainty and increase the risk of disruption. Hence, logistics service industry companies need a resilient supply chain strategy to help companies survive all possible risks that can harm the company. This study aims to develop a relevant supply chain resilience strategy for the logistics services industry in Indonesia. The data is taken from the literature review to obtain an initial shortlist of existing supply chain resilience strategies. Then strategies were assessed and validated by six logistic experts from industry, industry associations, and academic. Next, the scores were analyzed using the item-content validity index (I-CVI) and the modified kappa (K) statistic. From this study, 16 strategies have been validated and furthermore could be used by the logistics service industry to achieve their supply chain resilience system.

Keywords: supply chain resilience strategy, logistics service provider, content validity index, kappa analysis

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EXPLOITING ONTOLOGICAL ENGINEERING PARADIGM IN SMART DECISION SUPPORT SYSTEMS

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Ontological engineering (OE) is a subset of knowledge engineering (KE). Ontology is a powerful technique for knowledge management, processing, and representation in a specific domain and enables inference as well as reasoning tasks. Most of the applications of OE in the fields of informatics and artificial intelligence (AI) are related to developing robust smart software systems and knowledge-based systems. On the other side, Knowledge-Based decision support systems (KDSS) are consultation intelligent systems that contain a knowledge base (KB) and inference engine(IE).The KB contains static knowledge and experiences (heuristics knowledge) of many experts in a specific task. In this article, we focus our discussion on the potential role of OE in Knowledge-Based Decision Support Systems (KDSS). Moreover, the article presents the research issues for developing ontologies for any task. In addition, web-based ontologies for expert systems, e-business, and e-medicine, e-education are also included. The ontological engineering paradigm is an effective methodology to manage and represent knowledge. Ontologies are now ubiquitous in many information-systems enterprises. They constitute the backbone of the Semantic Web as well as they are used in all e-activities and applications. Furthermore, the ontology approach enables us to solve the incertitude and complexity of the instructional systems.

Keywords: ontological engineering, e-business, e-medicine, e-education

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THE EFFECT OF VIDEO GAME PLAYING TIME ON ACADEMIC PERFORMANCE OF COMPUTER ACCOUNTING LESSON

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With this study, it is aimed to determine the effects of video game playing time on the academic performance of the students who take computerized accounting lessons in higher education institutions. In this context, a questionnaire was applied to a total of seventy students studying at Uşak University and taking computerized accounting courses. Findings obtained from the survey method applied to the participants within the scope of the study, video games, keyboard, mouse, etc. in computerized accounting lesson. It has been concluded that it provides practicality to students in the use of technological tools and allows for faster detection of errors in incorrectly created accounting receipts. In addition, it is among the findings obtained within the scope of the study that video game playing time has a significant effect on accelerating the learning process in the computerized accounting course, providing practicality in the creation of accounting slips, and enabling students to be curious about different accounting package programs and to examine these package programs.

Keywords: computerized accounting, video game, digital game, academic performance

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SUB-DISTRICT GOVERNMENT INSTITUTIONAL CAPACITY OF JAKARTA PROVINCE

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Sub-districts have a strategic role in the government system in Indonesia. The first is a liaison institution between the provincial government and the ward government and the second is the coordinator of the ward government. However, the weak institutional capacity of the sub-districts has resulted in a span of control of the government administration and public services barrier. The study aimed to analyze the level of institutional capacity of a sub-district institution to carry out its role and formulate some efforts to strengthen sub-districts. The research was designed with a quantitative approach and survey method. Collecting data using questionnaires, interviews, and Focus Group Discussions. Descriptive statistical techniques were used to analyze sub-district institutional capacity and its supporting dimensions. The results of the study show that the sub-district institutional capacity is in the moderate category (score 73.38). The results of the analysis of the five dimensions of institutional capacity are as follows: leadership capacity is in the high category (score 80.37), while the other four dimensions are in the medium category, namely authority capacity (score 70.96), organizational structure (score 72.76), readiness management (score 63.45) and digital service capacity (67.40). Strengthening sub-district institutional capacity to support Jakarta's vision as a global city through, the first delegation of authority from the Governor to the administrative mayor and the sub-district head. Second, the application of the concept of agile organization and humanocracy concept in the organizational structure, and last, the institutionalization of the digital government system.

Keywords: the local government, institutional capacity, sub-district, Jakarta province

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STUDIES ON POTENTIAL OF VEGETABLE WASTES AS ALTERNATIVE MEDIA FOR PROBIOTICS GROWTH

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In modern days, agricultural waste, such as vegetable waste, has increased tremendously because of increasing production to meet the increasing global population demand. However, this waste usually ends up being dumped in landfills which will eventually negatively impact the environment and indicating ineffective utilisation of resources. Vegetable wastes such as tomatoes and cucumbers were used in this study, and they are rich in nutrients that have significant potential for use in the growth of various microorganisms such as probiotics. Thus, the aim of this study was to investigate the potential of vegetable waste as a probiotic culture medium. First, the proximate analysis of the vegetable waste was performed by rapid near-infrared (NIR) spectroscopy. Probiotic *Lactobacillus* spp. were sourced from locally bought yoghurt and cultivated in MRS agar and broth with dried tomato and cucumber powder extracts. The cultures were incubated at 37 °C for 48 h, and the growth of the microorganisms was observed. This study demonstrated that the utilisation of tomato and cucumber waste has significant potential as a medium for probiotic cultivation.

Keywords: vegetable waste, alternative microbiological media, waste valorization

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POLICY EVALUATION OF SHIPPING INDUSTRY ON CO2 EMISSION PRODUCTION IN INDONESIA: A CAUSAL LOOP ANALYSIS

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As an archipelagic country with two-thirds of its territory consisting of water and in line with global trade, Indonesia has made the shipping sector an essential and strategic role in supporting national development by paying more attention to developing its maritime industry. The increasing need for shipping services will also increase the phenomenon of global warming. CO2 emissions from the marine transportation sector have become a concern for transport policymakers and climate change regarding sustainability issues, including CO2 emissions in ports which continue to increase due to their significant impact on emerging environmental, social, and economic issues. However, the existing studies focus primarily on CO2 emissions from shipping, with little attention to vessel berthing in ports and cargo handling in ports. This study takes the sea transportation sector in Indonesian Ports by using part of the System Dynamics methodology, Causal Loop Diagram Analysis on the production of CO2 emissions, to show the interrelationships between these factors. The purpose of this study is to propose a CO2 emission mitigation strategy and evaluate policies that have been implemented in the marine transportation sector. The results show a validated Causal Loop Diagram that can be used for dynamic system assessment under the scenario.

Keywords: causal loop analysis, co2 emissions, sustainable port, policy scenario

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**POLICY MODELING FOR REDUCTION FOOD LOSS AND WASTE IN INDONESIA WITH
SYSTEM DYNAMICS APPROACH: A CONCEPTUAL MODEL**

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Food waste is waste generated throughout the stages of food supply chain – production, post-harvest & storage, processing & packaging, distribution & marketing, and consumption. Every year, the amount of food waste generated increases significantly and results in economic, environmental, and social losses. Indonesia is one of the countries that has committed to reduce half of the current amount of food waste through the Sustainable Development Goals 2030 agreement. To support this commitment, a policy that is comprehensive and integrated is needed to reduce the amount of food waste. This paper focuses on studying the dynamic relationships in food supply chain systems that produce food loss and waste. This study provides appropriate policy recommendations to support the reduction of food loss and waste in Indonesia. This study uses a causal loop analysis to see the feedback relationship of the variables in the food supply chain system that results in food loss and waste. This research shows that there are two policies that can be used to reduce food loss and waste, namely green campaign education policies and recycling waste.

Keywords: food loss, food waste, food supply chain, sustainability, Indonesia

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PARENTAL INFLUENCE ON READING AND MATH SKILLS IN CHILDREN AGED 5-9, TURKEY SURVEY

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The importance of home support for reading and math skills, which are thought to be acquired at school, is obvious. The current study is conducted with the aim of revealing how reading and math skills are supported at home in boys and girls aged 5-9 in Turkey. We used the form that we created our own questions to find out who assists math and who assists reading at home, does being daughter or son changes the situation, how about being father or mother, what are the home activities that supports math/ reading. We collected survey data on 528 parents. When the missing data were discarded, results indicated that 248 girls and 245 boys' parents participated in the study. While 259 mothers assisting with maths, 104 fathers stated that they assisted with maths. As for support in reading, the numbers differed considerably. 342 mother says they are assisting with reading; on the other hand 24 father says they are assisting with reading. We will give other results in detail in the presentation. We also discussed the results and provided implications for practice.

Keywords: education, children's academic development, parental beliefs and practices

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EVALUATING PHYSICAL ACTIVITIES OF DISABLED YOUNG PEOPLE: EXPECTATIONS AND CHALLENGES

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After rehabilitation or treatment in hospitals, young people with disabilities often could not engage in a variety of sports due to their physical limitations related to their illness or disability. This gives rise to certain psychological problems, reduced self-esteem and self-confident. The aim of the ReSport project is to enable young people with disabilities to participate equally in sports activities, considering their health condition. Professionals from 8 project partners' countries aim to recognize the problems that are preventing young people with disabilities from participating in sports after rehabilitation. Partners collected local, regional, national and Europe wide best practices and concepts in the field of innovative approaches for motivation of youth with disabilities for sports and developed a set of exercises to raise their inclusion in sport activities. The project "Re-Sport" encourages social inclusion and equal opportunities in sport, while the parallel topics are to promote voluntary activity in sport and education in and through sports with special focus on skills development. Two main target groups will benefit from the project results: a) youth with disabilities and b) volunteers from sports organizations. The purpose of this study is to learn and evaluate which physical activities youth with disabilities prefer, their expectations, challenges, and good practices. This research was conducted with young people with disabilities in Slovenia, Austria, Italy, Croatia, Serbia, Sweden, Greece, and Turkey. Total number of participants were 230. Analysis and graphics were prepared with a special software based on the survey's answers. According to the answers received, investigations, inferences were made and reported.

Keywords: disabled young people, sport activity, challenges, expectations, social inclusion

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CONTENT ANALYSIS OF THE LETTERS WRITTEN BY OTTOMAN AND ALLIED SOLDIERS DURING THE BATTLE OF GALLIPOLI

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The Battle of Gallipoli, one of the most important battles of the First World War, is an important turning point in world history. One of the spiritual and cultural heritage transferred from the Battle of Gallipoli to the present day is the letters written by the soldiers who fought in the Battle of Gallipoli to their families from the front. These letters are one of the sources that best reflect the psychology and emotional state of the soldiers. In this respect, letters have a critical role in understanding the war and the events that took place at the frontlines. The aim of this study is to analyze the content of the letters written by Ottoman and Allied soldiers who fought at the front during the Gallipoli War to their families and loved ones, and to compare them by revealing the feelings, thoughts and psychological states of the soldiers reflected in the letters during the war. Content analysis method, one of the qualitative research methods, was used to examine the content of the letters written by Ottoman and Allied soldiers who fought in the Battle of Gallipoli. The themes related to the research topic in content analysis were created by examining the literature. The letters of seven Ottoman soldiers and eight Allied soldiers were subjected to content analysis and percentage frequencies were calculated. The results of the research showed that the letters written by Ottoman soldiers had more intense national and religious feelings, whereas these feelings were at a lower level in the letters written by Allied soldiers. In addition, it has been observed that despair, anxiety and fear were more dominant in the letters of the Allied soldiers, while Ottoman soldiers felt these emotions at a very low level.

Keywords: history, cultural heritage, The Battle of Gallipoli, soldier letters

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NEW CURRICULUM OF EDUCATION IN INDONESIA: HOW DO NATURAL SCIENCE TEACHERS THINK ABOUT?

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The 21st century learning leads to create new skill of students, so the Indonesian government offers the new curriculum. In vocational school, project-based learning for the subject of the Ilmu Pengetahuan Alam dan Sosial (IPAS) Project is required to increase the creativity of student. Informations about the perspective of vocational teachers to conduct these learnings require to be elaborated more deeply. This research aims to describe the perspective of teachers to Kurikulum 2022. This study is phenomonology research. Participants of this study were 8 teachers of IPAS Project for vocational high school, in Indonesia. The data was collected by interviews. Data analysis was performed using ATLAS.ti 22 software. The results showed that the majority of teachers's response to the Kurikulum 2022 is positive which they explained that Kurikulum 2022 has more advantageous than the lack. The final goal is to improve quality of education in Indonesia. Pancasila profile has good response by teacher because it is more explicit and complex for building the character of student. The vocational teachers have totally prepared by their own creativity. The recommendation from teachers are expressed as a hope for improving quality of education, such as training for teacher, facilities and massive socialization.

Keywords: new curriculum, project-based learning, Pancasila profile, preparation, recommendation

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SOCIOLOGICAL PORTRAITS: A HEURISTIC TOOL

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Sociology is a pluriparadigmatic and methodologically eclectic science whose purpose is to explain the social by the social. This does not exclude the existence of instruments with relevant heuristic potential. This article aims, in a brief presentation, to expose the sociological portraits, proposal that originated in Bernard Lahire, in its elaboration process and respective potential. In order to fulfill this desideratum, a collection and document analysis of the sociological portraits of Bernard Lahire and other authors who discuss and/or problematize and implement this sociological tool was conducted. The result is a discussion of the concept of sociological portraits as well as a proposal for their elaboration, highlighting their potentialities. The conclusion is that the sociological portrait is a tool with a high heuristic potential which can account for the plurality inherent in plural practices on an individual scale by allowing an understanding of the internal and external power relations which shape the practices of actors.

Keywords: Lahire, sociological analysis, sociological portraits, sociology

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WATER SYMBOLICS: FRESH, SALTY AND SOUR WATERS IN THE AZORES

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An element as natural as water can be interpreted through different social representations. In this research we discuss some of these differences in a specific socio-spatial context, the island of São Miguel, in the Azores, Portugal, the island with the largest territorial dimension of the Azores corresponding to about one third of the total area of the Azores archipelago and where more than half of the Azorean population lives and the highest economic activity and presents some of the main "eruptive centres" of the Azores: the volcanoes of Furnas, Fogo and Sete Cidades. In order to accomplish this desideratum, we analysed through direct observation, participant and non-participant, the social representations of waters in the Azores through three symbolic analytical frameworks: fresh waters, salty waters and/or sour waters. In this study of water symbolic, the following sociological analysis categories resulted: sweet waters (the images of water that tends to be drinkable), salty waters (the allegories related to the sea) and sour waters (the allegories related to those waters that come from volcanic phenomena). This proves that the element of water itself can be understood differently, and that the social context in which individuals live is very relevant in helping us to understand these different significations.

Keywords: water, symbolic of water, social representations, Azores

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ARTIFICIAL INTELLIGENCE AND HIGHER EDUCATION

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Artificial intelligence has potentiated changes in higher education. In this position paper we propose to discuss dimensions that shape higher education and that can be transformed by the mobilization of AI: teaching-learning processes (from the scholar and student perspectives), research (from the perspective of professional researchers, students and advisors), management of organizations (from the perspective of managers, subordinates and students), relationship with the outside (the look from inside to outside, as well as from outside to inside). To this end, a documentary collection and analysis was carried out to support our argumentation about the new challenges and the potential that emerges from the existence and application of artificial intelligence in Higher Education. Because this change, like any transformation, will have positive as well as negative aspects, some implications of both a theoretical and more practical nature of these challenges for academics, students and other stakeholders in higher education institutions are also discussed.

Keywords: artificial intelligence, higher education, innovation, digital competence, digital literacy

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NETNOGRAPHY AND NETHNOGRAPHY: CHALLENGES AND OPPORTUNITIES

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In this review, we aim to contribute to the analysis of two types of qualitative online research: netnography and nethnography. For this purpose, we will focus our attention on their definition, specificities, similarities and differences to better understand the challenges and opportunities posed by the implementation of these types of research with the potential for the analysis of, for example, online community and online culture in social media but also in virtual reality contexts. Through a document collection and analysis, in which we searched various databases for information on netnography and/or on nethnography, it was possible to fulfil this goal and justify the relationship between these forms of research. It is concluded that nethnography is yet another research method that can complement and enrich netnography by adopting the research method, adapting it, whenever necessary, to the needs of the research to fulfil its objectives in a heuristic, technically competent and ethically informed way.

Keywords: nethnography, qualitative research online, online community, online culture, social media

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DOPING INFLUENCE ON CHEMICALLY DEPOSITED PBS THIN FILMS PROPERTIES

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In this work chemical bath deposition (CBD) was used to prepare PbS thin films. These latter were grown on ordinary glass substrates. The precursor aqueous bath contained 1mole of lead acetate, 1mole of Thiourea and complexing agents (triethanolamine (TEA) and NaOH). Bath temperature and deposition time were fixed at 60°C and 3 hours, respectively. However, small rate (2%) of doping has been added in the reactive bath: Au nanoparticles, copper and zinc. A co-doping has also been realized by adding the same rate of Au nanoparticles and Zn simultaneously. Structural properties of the undoped deposited films were characterized by X-ray diffraction. The PbS crystal structure was confirmed. Optical studies showed that films thickness was strongly affected by doping nature, it varied between 380 nm for PbS: Cu films and 840 nm for PbS: Au films. The behavior of films growth has been studied. Energy band gap values have been calculated and found to take value in the range 0.67 - 1.46 eV. The used doping elements were revealed to enlarge the optical band gap and increase the disorder Eu. The properties of PbS make this material an excellent candidate in several fields as solar energy conversion near the infrared ray or IR detection.

Keywords: PbS, thin films, doping, x-ray diffraction, afm, uv-visible

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PREDICTING COURSE ENROLLMENT WITH MACHINE LEARNING AND NEURAL NETWORKS: A COMPARATIVE STUDY OF ALGORITHMS

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The digitization and collection of big data by higher education institutions can help administrators make informed decisions about resource allocation, specifically in enrollment management. This study explores the use of machine learning and neural network algorithms to predict future student enrollments in courses. Real data from the Arab American University in Palestine (AAUP) was used. Eight machine learning algorithms, in addition to the Multilayer Perceptron (MLP) neural network model, were used to predict which students are most likely to enroll in a specific course. Results show that ensemble-based and bagging algorithms outperform other classifiers, including neural network models, for individual-level prediction of student enrollments. The Random Forest algorithm achieves the highest accuracy of 94% and an F1 score of 79% after applying under-sampling techniques on the highly imbalanced dataset. The study recommends future research to develop a generalized model for predicting enrollment in any course at AAUP and highlights the effectiveness of these techniques for improving resource allocation and student support.

Keywords: classifiers, imbalanced dataset, hyperparameters tuning, F1 score, enrollment, higher education

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A COMPUTER-AIDED FRAMEWORK FOR DIGITAL LEARNING IN ANIMAL HUSBANDRY

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Nowadays, digital technologies are widely used in the field of education. 3D technologies, virtual and augmented reality are a prerequisite for the application of new approaches to the presentation of educational content and its easier perception and adoption by learners. The paper presents a study of virtual and augmented reality methods and the possibilities of their application to create educational resources in the field of animal husbandry in order to improve the quality of learning. The research is aimed at developing a computer-aided framework for digitized education, creating new educational resources for digitized learning in animal husbandry and analyzing data extracted from the learning resources of a given course in the system. An approach for parallel image processing using multiple threads that process different parts of the image simultaneously is proposed. The proposed parallel model is verified by a multithreaded program implementation for animation of a picture containing different positions distributed by rows and columns.

Keywords: animal husbandry, educational resources, virtual reality, multithreading

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UNDERSTANDING THE NATURE AND EFFECTIVENESS OF UNDERGRADUATE UNIVERSITY STUDENTS' OUT-OF-CLASS LANGUAGE LEARNING EXPERIENCES WITH YOUTUBE: EVIDENCE FROM KAZAKHSTAN

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In the digital era, the use of online resources for language learning is gaining popularity among university students, and YouTube has emerged as a leading platform in this regard. This qualitative study delves into the intricacies of undergraduate university students' out-of-class language learning experiences with YouTube in Astana, Kazakhstan. By analyzing the types of YouTube-facilitated language learning videos that the participants engaged in, evaluating their experiences, and investigating the factors that influenced their choices, this study offers valuable insights into the potential of YouTube as a tool for language acquisition. The findings of this study reveal that the participants' use of YouTube for English language learning was significantly influenced by their private English language tutors and that the motives for learning English through YouTube varied from standardized test preparation to achieving academic or professional gains. Furthermore, the study uncovers that YouTube English language learning videos have their own set of advantages and limitations, such as ease of accessibility and no cost, alongside drawbacks such as limited interactivity and feedback. By revealing the nuances of YouTube as a platform for language learning, this study has practical implications for language educators seeking to integrate technology into their teaching practices and policymakers aiming to promote technology-based language learning. This research makes a valuable contribution to the existing literature on the use of YouTube for language learning and highlights the potential for further exploration and investigation in this rapidly evolving field.

Keywords: YouTube, English language learning, out-of-class learning, Kazakhstan, higher education, technology

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STUDENTS' PERCEPTIONS ON THE USE OF FLIPPED LEARNING IN CHARACTER BUILDING-CIVICS COURSE: A STUDY IN A PRIVATE UNIVERSITY IN INDONESIA

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The rise of flipped learning in higher education has become apparent along with technological advances. Higher education must stay up with cutting-edge pedagogy and cognitive sciences to guarantee inclusive and equitable quality education for all students and to equip them with current knowledge and applicable skill sets for lifelong learning. Traditional teaching methods are profoundly teacher-centered and usually students pay attention to the teachers during the course. Flipped learning is distinct in that there are more engaging learning activities within the time spent in the classroom. Compared to the conventional approaches, it allows students to participate in the lesson more actively. However, flipped learning also presents several challenges for the students. This study aims to examine the advantages and challenges of flipped learning in higher education. Sixty-two students in Character Building Civics course participated in this qualitative study. Students' views on the implementation of flipped learning were gathered through an open-ended questionnaire. The findings showed that flipped classroom gave students more chance for independent learning and flexibility during both online and in-class sessions. The students also reported that flipped learning allowed them to be more well-prepared before class. However, the findings also indicated the difficulties with flipped learning. Some students expressed the challenges to be self-regulated learners as required in the flipped classroom. In addition, students also reported their poor Internet accessibility outside of the classroom.

Keywords: flipped learning, online activities, in-class activities, higher education, character building, civics

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A SCALABLE HEALTHCARE DATA SCIENCE FRAMEWORK BASED ON SERVICE ORIENTED ARCHITECTURE

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The aim of the research presented in this paper is to propose a conceptual model and architecture of a service-oriented scalable framework, ensuring the implementation and verification of methods and algorithms for the integration, management, analysis, and visualization of biomedical data and the implementation of scientific research for the needs of precision medicine. The system architecture for big biomedical data analytics and discovering useful knowledge from data consists of the following components: biomedical data sources, data storage, data integration and preprocessing, real-time data flow, stream processing, analytical data storage, data modeling and analysis, and results visualization. The technologies of streaming and parallel processing are applied. The research data warehouse has the capability to update multiple data for analysis and visualization. A feed-forward artificial neural network is designed for data analysis, and during the training process, the input data is divided into training data and test data. The training error and its distribution over the weights of the neurons in the network are determined. A reduced set of statistical records related to cardiovascular disease analysis has been used as experimental data. The original database contains 76 attributes, and 14 of them have been used for the study. In addition, the data is split in a ratio of 0.8 to 0.2. The first 80% of the data was used to train the neural network and the remaining 20% to test the trained network. The calculated accuracy increases with increasing epochs and is higher for the training data and lower for the validation test data. Thus, the trained model can be saved, and loaded on another system, as well as available for review of the weight values. The trained model is applied in the system to calculate new input parameters that were not used either in training or validation.

Keywords: healthcare, biomedical data, neural networks, artificial intelligence, data analytics

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EFFECTIVENESS OF PREFABRICATED FUNCTIONAL APPLIANCES DURING ORTHODONTIC TREATMENT IN YOUNG PATIENTS

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Prefabricated functional appliances (PFAs), are made of soft elastomeric material, were first introduced in the 1980s. They are available in different shapes and designs related to their indications. During the last years clinical trials are performed aiming to summarize clinical effects of PFA. The aim of this presentation is to show our experience using them in young orthodontic patients. Clinical cases will be discussed during the presentation. All patients at the beginning of therapy were 8-10 years old, with Class II, division 1 malocclusion, large overjet and deep bite. They were treated with PFA, keeping the appliance during night. During the first year they controls were performed every 2 month and after one year, follow up every 6 months. After one year of treatment with PFA, cephalometric tracing confirmed reduction of ANB angle, large overjet and overbite was in all cases. Molar sagittal relationship was improved toward a Class I. Changes were observed in patient's profile as well. Improvements were found regarding lip incompetence, respiratory problems and self esteem. In follow up controls after the first year, the situation was generally stable. PFA are effective in correcting increased overjet, overbite, lip incompetence and Class II malocclusion in early mixed dentition, leading to an improved or normal occlusion. Many times no further orthodontic treatment is needed after their use. By correcting some dental risk factors for dental trauma such as large overjet and lip incompetence, they may be considered as an effective preventive treatment regarding this issue.

Keywords: functional appliances, orthodontic, early treatment

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FROM LEARNING DIFFERENT NUMBER BASES TO TEACHING BASE TEN

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This study aimed to reveal the solutions of pre-service teachers to contextual problems related to number bases other than the base ten. Furthermore, it was intended to investigate which issues pre-service teachers discussed about their learning in the problem-solving process, including context, and about student learning in their future teaching practices. To achieve this, task-based interviews were held with 12 pre-service primary school teachers. During semi-structured one-on-one task-based interviews, some questions were asked to reveal pre-service teachers' way of thinking about the problems and their reflection on the learning. In this context, data were obtained from the audio recordings and the students' written responses. Besides, researchers' notes are used as supporting documents for the validation of the data collection process. The main findings of the study revealed that context is a facilitator for preservice teachers in understanding number bases other than base ten. They gained insight and provided instructional explanations on how to teach the student by understanding the different number bases. Furthermore, context enabled preservice teachers to reflect on how to teach better by considering their own learning processes.

Keywords: context, different number bases, mathematics, preservice teachers, reflection, task-based interview

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STUDENT SATISFACTION IN ONLINE LEARNING ENVIRONMENT

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Advances in technology have led to a growing number of online courses, and research has shown that online courses can be just as effective as face-to-face courses (Kauffman, 2015). The majority of online students tend to be non-traditional learners who are juggling work, school, and family commitments (Prensky, 2001). The advantages of online learning for these students are accessibility and flexibility (Price, Whitlatch, Maier, Burdi & Peacock, 2016). The challenge remains for institutions to design courses to meet students' needs and expectations in order to facilitate deeper learning and enhance the skills required within the workforce (Kauffman, 2015). Educators have struggled to overcome the challenge of increasing student satisfaction within the online learning environment, and they seek strategies for engaging and educating students effectively. The purpose of this case research study was to examine students' satisfying and dissatisfying experiences within a 100% online learning environment at a Southeastern university in the United States. The participants included students who enrolled in three graduate-level 100% online programs. The findings could be utilized to improve the online learning environment for students based on the most beneficial practices in today's tech world.

Keywords: online teaching, online learning, teacher education

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EXPERIMENTAL RESEARCH ON THE CHALLENGES OF DISTANCE LEARNING

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As a result of the development of COVID-19 pandemic, a rapid transition from the classic classroom-lesson form to a distance form of education was required. Thus, many questions arose regarding the applicability of this training method and its comparison with the classical face-to-face method. This article presents a study of the examination results of face-to-face and distance-learning students, assuming all other circumstances being equal. A hypothesis test is performed, regarding a difference between means of two independent samples for quantitative indicators, that have normal distribution. Student's t-test for independent samples is applied. The research takes place in the University of Mining and Geology in Sofia, Bulgaria. The experimental results show that the examination results of the students are different for both methods and in the majority of the cases the results of the present in the class students are better. Comparing the advantages and disadvantages of both methods, it is concluded that only a combination of different forms of education - present in class, remote, hybrid and blended, can provide a modern education aimed at the sustainable development of society.

Keywords: face-to-face learning, distance learning, blended learning, hypothesis test

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INSTITUTIONAL PRACTICES AND POLICIES THAT PROMOTE BLENDED LEARNING ADOPTION: LECTURERS' PERSPECTIVES

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Pre-COVID, many brick-and-mortar institutions of higher learning (IHLs) adopted largely voluntary, mostly supplementary, interest driven approaches to Blended learning (BL) implementation, resulting in pockets of innovation. Successful and sustainable institution-wide changes including BL implementation requires an in-depth understanding of lecturers' perspectives to shape effective practices and policies. This case study examines a compulsory BL initiative at an institution of higher learning in Singapore and uses the perspectives of cross-disciplinary lecturers to provide practical insights for institutions looking to adapt to an institution wide blended and digital post-COVID learning environment. Participants were twenty-three lecturers involved in six semesters of BL and eventually Emergency Response Teaching (ERT) due to COVID. Teaching experiences of participants ranged between seven and thirty-four years across thirteen national skills domain areas. Data collection methods included pre, post-COVID interviews, display of artefacts and email follow-ups. Interview data were analysed in a grounded theory process using an inductive open coding approach. Despite initial apprehensions, challenges, varied intentions, pedagogical and technical knowledge and skills, participants reported success in adapting to BL. Corroborating with institutional data on student experience and performance, several participants perceived the initiative to have been more successful compared to previous attempts at institutional change. This paper reports on institutional practices that emerged as enablers to facilitate BL adoption and adaptation. The analysis of an institution- wide BL initiative and the authentic voices of experienced cross-disciplinary lecturers may provide practical insights for institutions involved in re-shaping practices for a necessarily blended, and digital post-COVID learning environment.

Keywords: design thinking skills, institutional change

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ANALYSIS OF VOCATIONAL EDUCATION AND THE ROLE OF THE TEACHER

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Technical, economical, and social changes place great demands on the qualification of professional forces in all areas of the national economy. The decisive foundations for these qualifications are built in vocational education. Vocational education is an investment in the future and one of the decisive pillars of the prosperity of every state in the future horizon of competitiveness. From that follows that the topic of professional dual education is becoming more and more relevant in all countries of the world. Economic experts at the moment state, that overall unemployment among young people is higher compared to other years, and at the same time there is a lack of qualified personnel for professional positions in various work areas. Many states see the solution to this problem in the implementation of dual education, so individual countries have begun to take the necessary measures. The advantages of adapting curricula to the demands of the economy and business are obvious and transparent, so this agenda is supported by the public and private sectors, as well as non-profit and non-governmental organizations. The article analysis the elements of dual education in individual European countries with a special focus on dual education in Slovakia. A meaningful motivating factor for its qualitative rise can be the comparison of the vocational education system in individual European countries.

Keywords: vocational education, employment, professional skills

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THE LEARNING HABITS OF UNIVERSITY STUDENTS

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The article analyses, on the basis of research, the learning habits of university students and the possibilities of teachers in their positive formation. Learning skills, study methods, and their quality are one of the factors that monitor students' academic success. Wrong or inappropriate study methods and teaching skills create an excessive stress load for students, which can be manifested not only in the creation of new attitudes toward studies but also towards the institution of the university. Creating new study habits is indeed a tedious and troublesome process, but its result is a positive change, the added value of which is the intellectual property of the student's personality even in the future in the process of continuous education. Changing study habits cannot be forced, and students must act so voluntarily, for changing study habits, the attitude towards studies and the field is decisive overall, and the education system should already create space for the formation of proper study habits in the lower grades. There is no doubt that the primary driving force is the motivation of students to regulate themselves and master their own learning. However, our findings revealed reserves in the teaching skills of university students, and it is, therefore, appropriate to think about the ways in which the teacher can help them. The teacher's personality in addition to motivation appears as the second relevant factor in the process of changing inappropriate learning habits to interactive and effective ones.

Keywords: learning habits, intellectual property, time management, motivation

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ETHICS, EDUCATION AND MACHINE INTELLIGENCE

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The sudden, unexpected breakthrough in the intelligence shown by machines, as a wished for, but very disruptive element, will shape the future of our civilisation and Humans as individuals and collectives. The extreme drive towards commercialisation of newest developments already led to an extremely wide spread of Machine Intelligence Assistants (and chatbots), with plans of many companies to include them into everything they produce. This puts Humans in a very precarious situation, specifically regarding ethics and morale, trustworthiness and confidence. Suddenly we found ourselves in a situation that Education has to be extended to cater for two types of intelligences: the Humans and the Machines. On the Machine side, it has been shown that it is very difficult to obtain a trustworthy and highly ethical non-biased intelligence. The present day approach of “training” the “models” must be overcome by the realisation that MI is based on collected Human knowledge, but initially “trained” without any regard to the order of learning, which directly influences the initial alignment of the emerging intelligence, the same way learning does in Humans. On the Human side, it is getting obvious that this disruptive development was generally completely unexpected, and no educational preparation was ever envisioned for this situation. However, between others, a good example of possible positive cooperation of Humans and Machines, which necessitates proper MI ethics, is Democratisation of Academic Publishing, where, based on blockchain trustworthiness, Open Access publishing is done in such a way that all stakeholders in the process get appropriate recognition and reward. The use of well educated Ethical Machine Intelligence in this process of management of an enormous amount of academic work and peer reviews will enable academic education and scientific development to be ethical, transparent, fair, trustworthy and accessible to all authors and readers throughout their life.

Keywords: ethics, machine intelligence, human education, machine education, academic publishing

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THE CORNERSTONE OF HUMAN FUTURE

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The Education drives the Future of Humanity. The Wishes and Visions of Humankind have to drive the Education. What is the final goal of Education? To bring up a healthy, emotionally mature, wise, knowledgeable nourisher of life, who understands and feels the reality, based on ethics, humanism and compassion, as essential characteristics of a human being, and who is ready to act according to these values. How to achieve that goal? Due to the inevitable development of technology it is necessary to develop a new paradigm of the future principles of educational systems. There are two possible approaches: The Naturo-Humanistic and the Technological, driven by Machine Intelligence, the greatest temporary achievement. In the Technological sense, things are happening at an unbelievable speed, and the human being as an individual, and their collective, has no time to adjust to those changes. There are no clear visions of human society development, despite the informational connectedness and globalisation. In the Naturo-Humanistic sense, it has to be very clear whom we are educating, what we like to achieve with the education, and what is the framework, i.e. the educational environment (social, economical etc.). Due to unconscious, unconscientious and harmful behaviour of people towards the Nature, the ecological consciousness of the interconnectedness of all and everything in the Earth's ecosystem is what has to be thought to children from earliest age. Education must strive towards Wisdom, as knowledge is the knowledge of information, and Wisdom is the know-how of applying knowledge to any problem solving. Knowledge wants to be "used", but only Wisdom is aware of possible future consequences of the application of knowledge.

Keywords: philosophy of education, visions of future, knowledge, wisdom, technology, nature ecosystem, human society

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THE IMPORTANCE OF DNA PROFILING FROM TEETH FOR FORENSIC PURPOSES – A CASE REPORT

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DNA profiling from teeth was used for the first time in Albania in 2022, for forensic purposes. This case has been resolved in collaboration with academic staff and experts of the Institute of Forensic Police in our country. On April 3, 2022, some bones and a skull were revealed to surface after the locals have burnt some bushes. The police were informed and the bones were recovered by the police and the Prosecutor's Office, meanwhile, in May 2015, an 16 years old young boy has been declared missing from his family. Prosecutor's Office began investigations for their identification. After a few days, the Prosecutor's Office requested the DNA profile of the mother. She submitted a DNA profile to the Scientific Laboratory of the State Police. Forensic experts have concluded that some of the bones found in the area turn out to be damaged by strong tools. Specialists were not able to determine which tools were used to hit the victim. The aim of this study case is to evaluate for the first time in Albania DNA profiling from teeth (first permanent molar) and give the perspective for further expertise in the field of DNA profiling from teeth. DNA from the pulp chamber of a tooth can be extracted to obtain a genetic profile which can be compared with genetic profiles of family members, to identify the person. The protocol used for extraction is PrepFiler™ Express BTA, which was performed in Automate Express-DNA Extraction system. The amplification kit used is NGM SSelect™ which contains 17 loci including the sex-determining locus Amelogenin. The sequencing was performed in Genetic Analyzer 3500. In conclusion, DNA genetic profiling from teeth resulted in one efficient method for forensic dentistry identification purposes. The victim was identified through this method. Recommendations: This case report demonstrates the challenges of identification of DNA profiling from teeth (first permanent molar) opening new perspectives for our country.

Keywords: forensic dentistry, DNA profiling, PrepFiler BTA, first permanent molar

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COMPETENCY-BASED EDUCATION TO TEACH TRANSLATION: JORDAN'S GRADUATE EMPLOYABILITY

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Youth make up over half of Jordan's population, and almost half are unemployed. Young people experience apathy and frustration due to a lack of employment opportunities and an education system that does not prepare them for the workforce. In Jordanian Higher Education Institutions, student success is our focus. However, we still follow a traditional way of teaching and delivering knowledge. This study aims to promote operating more of a personalized learning approach to increase graduates' preparedness to meet workforce needs. It also advocates for the inclusion of entrepreneurial competencies. For the purpose of assessing the efficiency of the current teaching approach in the Translation program, Al-Balqa Applied University students were surveyed. The findings reveal a deficiency in English language competency and graduates are not competent enough to enter the workforce. To remedy the gap between academia and industry and to prepare graduates for the industry, the study proposes a competency-based approach to teaching Languages and Translation courses. Extending this approach to reach Languages and Translation programs is a novel application of competency-based education.

Keywords: education, employability, competencies, translation industry, competency based education

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DESIGN AND DEVELOPMENT SERVICE DESK MANAGEMENT SYSTEM

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Organizations are implementing various advanced technologies as part of their daily operations. Individuals will not be aware of coping up with these advancements, so this will place heavy demands on the IT team responsible for handling these systems. Hence a viable solution to assist the IT team in taking care of these issues is by implementing a "Service Desk System". Many organizations in modern times rely on IT ticketing systems to provide fast and effective customer service to ensure satisfied employees and increased efficiency in the operations of an IT department. A documented agreement known as SLA is involved in identifying the services required by the customer and the level of service that can be expected of the service provider. The purpose of this study is to understand the various components involved in creating a Service desk management system. This project is being built for Protocol Systems which has a Service Desk system, but due to redundant fields, it is become a lot more tedious to use thereby resulting in longer wait times to solve issues. To solve, project will be set up as a web-based system to curb the installation process. It will also feature the essential fields to reduce wait times as well as having the necessary fields makes data retrieval faster as well. It is also designed to be scalable to accommodate processes that an IT expert would consider as a requirement for the future, will then be solved by the IT skills, thereby allowing the workload to be systematically delegated to the experts responsibly while achieving effective customer service. The system is being designed by using a MERN Stack, a web stack that is used abundantly to develop web applications while a potential solution is to host the application is MongoDB Realm.

Keywords: Service Desk System, MERN Stack, mongodb realm, service level agreement, IT services

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A HYBRID RECOMMENDATION SYSTEM FOR TOURISM IN THE SULTANATE OF OMAN

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In the era of technology, information or data is an important factor to do any kind of task. Recommendation system has been introduced in the tourism sector where the system can be used to provide the user with personalized recommendation of the places to visit. Sultanate of Oman has got various tourists attractions and it is one of the safest tourist destinations in the world. The purpose of this paper is to design and develop a recommendation system for tourism sector in Oman which will recommend to the users based on their searched destinations using hybrid recommendation system that is combination of- content-based and collaborative filtering algorithm. To train and then to provide meaningful recommendations, dataset has been developed by implementing web scrapping method from one of the popular websites 'tripadvisor' which consists of the description of all the tourism places in Oman namely destination names, type of the destination, average rating of the places, the number of people rated the place and image of the destination. The recommendation system is integrated with a web application that acts as a web interface. The system has been developed using python programming language while the web application was developed using Django framework along with HTML and CSS. To evaluate the efficiency and performance of the developed system, it was compared with three other algorithms namely Radius Neighbors classifier, Linear Regressor and Logistic Regressor. The same dataset was provided to all the three algorithms where 70% of the data is used as training data and the rest of the 30% of the data is used for testing. MSE (Mean Square Error) and RMSE (Root Mean Square Error) are calculated for all of the mentioned algorithms, and it was found the developed system performed better than most of the algorithms with less error.

Keywords: recommendation system, oman tourism, content-based filtering, collaborative filtering approach, mean square error, root mean square error

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ROMANIAN AS A FOREIGN LANGUAGE: CONTEMPORARY EDUCATIONAL CHALLENGES

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The current social context in which we live entails paradigmatic changes in all the tiers of education. The academic environment, the university study program within the Romanian Language Preparatory Year is confronting not only with the need to adapt the didactic strategies for remote teaching-learning-evaluating a foreign language, but also to optimise the entire process so that it should satisfy the requirements of a heterogeneous target group. To the same extent, the recent pandemic forced us to permanently adapt the whole educational climate as well as conflicts between peoples, which often pushed waves of migrations, citizens from other foreign states arriving in our country. Once settled here, they had to get linguistically and culturally integrated by attending Romanian language courses. In this regard, the students' cultural diversity, their wide age range as well as other individual or socio-professional peculiarities are notable as soon as the students' typology is defined: those who are willing to continue their studies in Romanian in our country due to the prestige of certain specialisations like medicine, and those who came in Romania from Ukraine, both native and foreign ones who began different higher education programs and wanted to continue them in our country. Consequently, the didactic approach in teaching a foreign language ought to be extremely concentrated, flexible and creative in order that it should satisfy the students' learning needs. The present study aims at highlighting a few useful teaching-evaluating strategies meant to be used in the Romanian Preparatory Year study program tailored for 60 students during their first month of study and familiarisation with the newly adopted linguistic and cultural environment.

Keywords: didactic, education, language, teaching, typology

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MACHINE LEARNING BASED FINANCIAL MANAGEMENT MOBILE APPLICATION TO ENHANCE COLLEGE STUDENTS' FINANCIAL LITERACY

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This paper presents the development of a mobile application aimed at monitoring college-going young students' spending patterns, promoting financial literacy, and better decision-making. Through a thorough review of various periodicals, effective financial management tools, and approaches were identified for students. The application is developed using the agile development methodology with Android Studio and Flutter as development tools and Firebase as a database. The mobile application is divided into sub-applications, with the home page serving as the program's integration point, displaying a summary of the user's financial progress. The app generates valuable insights into the user's current and future financial success, utilizing data analytics and machine learning to provide detailed and summary insights into the user's financial progress. The data analysis summarizes user data and provides insights that users can examine via graphs, summaries, and progress bars. The machine-learning algorithm used in this app is linear regression. It predicts the user's income and expenses for the upcoming month based on the data provided by the user. The algorithm is trained on the user's historical spending data and uses it to identify trends and patterns in their spending behavior. By analyzing these patterns, the algorithm is able to make accurate predictions about the user's future spending. Linear regression is an ideal machine-learning algorithm for this application because it is a simple yet effective method for predicting continuous variables like income and expenses. In addition, the app highlights deals and student discounts in the user's vicinity and links to financial articles that promote better financial planning and decision-making. This paper provides a valuable contribution to the field of financial literacy and awareness among college-going young students. By promoting responsible spending habits and providing valuable financial insights, this mobile application aims to help students become financially literate and make informed financial decisions for future.

Keywords: personal finance, financial awareness, financial literacy, predictive machine learning, financial management, data analysis, financial planning, mobile application

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THE PRESS IN THE CLASSROOM FOR CITIZENSHIP FORMATION IN THE DIGITAL AGE? PAPER AND PENCIL CASE IN PUBLIC EDUCATION INSTITUTIONS IN CARTAGENA DE INDIAS-COLOMBIA

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Paper and pencil is the result of a qualitative research carried out from the socio-critical paradigm that is approached from the perspective of Participation Action Research (IAP), seeks to teach young people and children at high social risk of 35 public educational institutions (EI) from Cartagena de Indias- Colombia, about the importance of knowing and understanding their social realities, framed in a context of high social risk, as well as that of their city, through the use of the media, specifically the press. In addition, the proposal works from Educommunication as a production line of a proactive knowledge, which starts from the reality of the school context, where the student is the architect of his own transformation. With this research project it has been possible to reach 712 students of the public EIs of Cartagena between 2019 and 2022, materialized in a collaborative work with teachers and directors by creating 6 educational cards that incorporate the use of the press to achieve a critical reflection, analytical and reflexive about the city problems addressed from the field of education and communication.

Keywords: citizen participation, Educommunication, Participation Action Research (IAP)

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ENHANCING ROOT CANAL TREATMENT EFFICACY IN CHRONIC APICAL PERIODONTITIS WITH DIODE LASER THERAPY

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The challenge of completely eliminating microorganisms from the intricate anatomy of the root canal, microbial invasion of dentinal tubules, and formation of intracanal biofilm has made endodontic treatment difficult. However, the use of lasers has shown significant improvements in endodontic diagnoses. This study aims to evaluate the clinical and radiological efficacy of using a diode laser for the treatment of chronic apical periodontitis. There were involved 84 patients aged between 20 to 70 years, with a total of 91 teeth treated. The patients were divided into two groups; the control group of 40 patients, with 30 single-root teeth and 11 multi-root teeth, was treated with traditional chemical-mechanical processes. The study group of 44 patients, with 36 single-root teeth and 14 multi-root teeth, was treated with both chemical-mechanical processes and a diode laser with a wavelength of 980 nm. The cases were clinically and radiologically observed for 6 to 12 months to assess the efficacy of the treatments. The use of a diode laser resulted in a significantly lower number of complications compared to the control group. The study group had a success rate of 96% and a failure rate of only 4% after 12 months. The control group had several complications within the first 6 months and a success rate of only 78.1% after 12 months, with a complication rate of 21.9%. These results suggest that incorporating a diode laser in traditional chemical-mechanical processes may enhance the success rate of endodontic treatments in cases of chronic apical periodontitis. However, the use of diode laser processing has been found to effectively sterilize the root canals, resulting in high-quality treatment outcomes. Modifying the traditional endodontic treatment protocol by incorporating diode laser processing can enhance the quality and effectiveness of root canal treatment.

Keywords: diode laser, endodontic treatment, chronic apical periodontitis, periapical lesion, microorganisms, canal biofilm

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GEL PRINTING TECHNIQUE IN THE CONTEXT OF ALTERNATIVE PRINTING APPLICATIONS IN PRINTMAKING

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Printmaking has made visual artworks reproducible and more accessible, allowing artworks to reach more masses. The art of printmaking, which has many different techniques and categories within itself, has attracted more attention over time, developed more and gained a distinctive place in art practices, while it was previously only a means of reproduction. In addition to printing techniques such as engraving, linoleum printing, mono-printing, and lithography, increasing material and technical possibilities today also lead to the emergence of more innovative applications. Gel printing, which we can call one of these new applications, based on the use of a soft surface as a printing area, is becoming increasingly widespread as an exploratory and entertaining printmaking technique used by many amateur and professional printers. The basis of this technique is the manipulation and transfer of paints, inks and other media to various surfaces using a soft printing plate. In essence, the printing plate is a rubber or gelatin surface that is thinned in certain areas. When paints, inks and other media are rolled across the plate by a roller, they can move between the thinned surfaces and create a variety of exciting shapes, colours, and textures. Gel printing can be an expressive, versatile, and economical alternative suitable for a variety of artists. Whether offering a simple design or an entire print, the affordability and universality of the technique make it an attractive option for any creator. This study, it is aimed to increase the recognition of the technique by examining the gel printing technique, which has recently been preferred by amateur artists and art students, in the context of alternative printmaking practices.

Keywords: printmaking, gel printing, monoprinting, monotype, art

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PHOTOGRAPHIC REPRESENTATION OF CARNIVAL AND GROTESQUE IN THE WORKS OF MOTHMEISTER

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Mothmeister, the artistic duo of Belgian-American photographers Dirk Marivoet and Bart Vandevijvere, have left an indelible mark on the world of art and photography with their unique style and highly stylised photographic work. The surrealist visual aesthetic of their work is characterized by the incorporation of bizarre and grotesque elements into a vivid, hyperrealist representation of the world. This paper analyses the use of a grotesque-inspired photographic style in Mothmeister's work in a carnival atmosphere and its impact on contemporary image-making. Mothmeister's striking visual aesthetic is eclectic and memorable, presenting a mixture of hyperrealism and surrealism in an endeavour to create a unique visual experience. Their work is often embodied by contemporary grotesquerie, an aesthetic that aims to shock and jolt viewers by emphasizing the grotesque and exaggerated aspects of the human figure. Using irony and humour, the artists subvert traditional expectations of beauty, creating images that are both captivating and disturbing.

Keywords: carnival, carnivalesque, grotesque, photography, art

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THE IMPACT OF LEADERSHIP VALUES IN PUBLIC EDUCATIONAL POLICIES FOR TRAINING NURSES

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Nurses are a vital resource of health care systems, a resource that must be valued, bearing in mind that their work has a role in social indicators of health, and also determines topics such as equality and equity, fairness and justice, which support the kind of societies we all want to live in. In the training process, they learn, in the middle of a team, to plan, to put into practice and evaluate general medical care based on acquired knowledge and skills. Future nurses must not only be prepared to meet the needs of the individual, the family, the community, but also have confidence in their own intellectual and clinical abilities so that they can work responsibly and autonomously, facing at the same time with increasingly complex requirements of healthcare. The refinement of medical training is subsequently achieved by developing the ability to solve problems, to make decisions, to practice leadership in medical care. The acquisition of leadership skills has been identified as a need in training nurses, both from the research of internal and international professional bodies and from those of clinical units. By harmonizing this need with public educational policies, the unit of learning outcomes "Leadership and professional communication" was implemented in the professional training standard. This paper aims to gain insight into the relationship between the values of leadership and the development of a good educational policy in training nurses, with a fundamental impact on the provision of health care in an efficient, integrated, and safe manner for the patient.

Keywords: nurses, leadership, educational policies

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A COMPREHENSIVE REVIEW TO IDENTIFY THE CHALLENGES AND OPPORTUNITIES OF USING DIGITAL TECHNOLOGY IN ENGLISH TEACHING IN HIGHER EDUCATION

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This study aims to explore the challenges and opportunities of using digital technology in English teaching in higher education. Transforming the teaching and learning process from face-to-face to online learning by utilising digital technology devices and internet connectivity becomes challenging for lecturers and students. However, there are many opportunities of integrating digital technology and education. This study uses narrative literature reviews to identify the challenges and opportunities of utilising digital technology in English teaching in higher education institutions. A number of challenges and opportunities are found in using digital technology in English teaching, including digital technology access, flexibility, engagement, pedagogical dimension, personal dimension and cultural awareness. Furthermore, this research can provide significant insight and understanding regarding the difficulties and benefits of integrating digital technology and education in higher education institutions, particularly since the COVID-19 pandemic. It also recommends further research regarding integrating digital technology and education, particularly in English teaching in higher education institutions.

Keywords: digital technology, challenges, opportunities, English teaching, higher education

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NITROGEN UPTAKE EFFICIENCY ON WATER SPINACH IN CONTROLLED PLANTING MEDIUM USING SPENT MUSHROOM MEDIUM COMPOST AND NPK-16 FERTILIZER

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Ipomoea aquatica (water spinach) is a long and leafy green vegetable with hollow stems that easily grown on the water surface or damp soil. It is a tropical and subtropical perennial herbaceous aquatic or semi-aquatic plant. Water spinach needs more water compared to other vegetable crops, thus suggested to employ slow-release fertilizer for sustain the available nutrients in the soil that being leached off by watering. Nitrogen uptake is the major issue in agriculture to sustain the quality of crops and soil for planting medium. Several studies have been conducted on many types of fertilizer and showed beneficial results on growth of water spinach. This study aimed the research on comparing the nitrogen uptake rate study during the planting period for both organic and inorganic fertilizer. The measurement of plant height, dosage of fertilizer and nitrogen uptake were highlighted in this research activities. Pots has been used and the growth of water spinach was evaluated along 30 days of planting. The spent mushroom medium (SMM) compost and NPK-16 fertilizer were used to evaluate the rate of nitrogen uptake for water spinach based on the Michaelis Menten kinetic study to evaluate the best fertilizer dosage with research design activities. It was showed that a 1 g of NPK16 fertilizer was equivalent to 2 g of SMM in the amount of N. There was a clear correlation between the nitrogen concentration and the water spinach growth. From the result obtained, the application of NPK16 fertilizer provided higher nitrogen value initially. However, SMM compost improved both physical and chemical to help water spinach absorbed sufficient moisture and nitrogen uptake at a steady state rate owing to the higher organic matter in SMM. As a conclusion, SMM compost resulted better nitrogen uptake efficiency by improved the soil fertility and better growth of water spinach.

Keywords: chemical fertilizer, composting, kinetic study, organic compost, soil fertility

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EXAMINATION OF MAQAM FORMS IN TURKISH MUSIC AND THE ELEMENTS THAT MAKE UP MAQAM

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The dictionary meaning of the word Musiki is music. It is frequently used in Turkish musical tradition. Musiki is an important part of Turkish music culture. Musiki is an art form formed by the regular combination of rhythmic sounds played by the human voice or instruments. These regular sounds can have a specific rhythm and melody. It is usually written and performed using musical notation and tonal systems. Turkish music has a unique style and tone and reflects the cultural and historical background of the Turkish people. An important subject in Turkish music is maqams. Maqam, in its dictionary meaning, is the name given to the way a sequence is processed in alaturka music. Maqams are used to create emotion and atmosphere in music and can be associated with a particular cultural or geographical region. For example, the maqams used in Turkish music are different from the maqams used in Western music and have a unique sound characteristic. In this study, it is aimed to contribute to the literature by examining the maqam forms in Turkish music and the elements that make up the maqam in detail.

Keywords: music, Turkish music, maqam forms, maqam elements

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RECYCLING FOR SUSTAINABILITY IN PACKAGING DESIGN

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Knowing that we are not the only owner of the world, we are only a part of it, and that it is our most important duty to observe the sustainability of resources for a more livable world is vital for us to leave a livable environment for future generations. The most important cause of environmental pollution is solid waste. Packaging, which is one of the important types of urban solid waste, dates back to the human desire to store food products. Packaging, the first examples of which are tree leaves and bark, has developed in direct proportion to the living standards of humanity. Packaging, which initially had one purpose only to protect food, has become an advertising and communication tool with the developing technology and the competitive environment created by the production sector. Today, what is expected from successful packaging is to protect the product in a healthy way to the expectations of the target audience, to be easily transported from one place to another, to gain customer appreciation with its aesthetic appearance and to have communication power. At the same time, since it is an advertising element, new searches are needed every day in packaging design. The diversity of the products to be packaged and consumer preferences have paved the way for new designs that can win the shelf competition with different materials. As a result of this, new packages were produced constantly, resulting in new and more solid waste. The designer should choose sustainable, environmentally friendly, recyclable or recyclable materials while planning the packaging process from production to shelf and to the end consumer. The content of this review-type study; is aimed at evaluating the packaging design within the framework of the concept of sustainability.

Keywords: sustainability, recycle, echo design, sustainable packaging

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GEOELECTRIC CHARACTERIZATION OF THE EL EULMA PLAIN AND THE NEIGHBORING REGIONS. N.E ALGERIA

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The plain of El Eulma and its neighboring regions occupy a large part of the Hautes Plains Sétifiennes in northeast Algeria. In view of characterizing the lithology and the geological structure of the basement of these plains, we present our first interpretations of 163 vertical electrical survey (VES) with spacings of the electrodes AB = 1000 and AB = 1500 meter by deploying both results of 'Old study conducted in 1979 by the geophysical company CCG. The interpretation of the results show that the prospected area is characterized by two potentially aquifer geoelectric levels. The first corresponds to miopliocene formations which are generally clays, conglomerates and lake limestones, the second level is installed with the carbonates of the Cretaceous and the upper Jurassic of the reliefs bordering the plain. The raw data of 163 VES was processed and called by the IPI2WIN software; We then carried out the creation of a database by year, real resistivity, thickness and position. A geostatistic treatment under Software Surfer 16 A allows the development of the maps of the thicknesses and equal real resistivity. These maps have shown a network of different direction faults; Sub-ground formations have a very low medium resistivity corresponding to a fulvio-lacustre lithology thus filling this basin with an average thickness of 300 meters. The low resistivity values seems to be in relation to the presence of conductive formations (gypsum and anhydrite) of the Triassic; or gypsum and gypsum clays of Miocene Basal.

Keywords: El Eulma plain, aquifers, vertical electric survey, geoelectric section

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TISSUE DECELLULARIZATION - A NOVEL MODALITY IN RECAPITULATION OF EXTRACELLULAR MATRIX

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The evolution of eukaryotes from single-cell organisms has an important role in understanding our existence on earth. As such, tissue evolution is involved and affected by various factors such as heredity and natural selection. Thus, the evolution of tissue brings in the changes in the extracellular matrix (ECM). The ECM is a biomaterial that is designed naturally for each tissue uniquely by completing its optimization throughout evolution. Indeed, it is a highly organized 3D network of proteins and biomolecules essential for all tissue types. Many biomimetic matrices have been developed using protein compositions of the ECM to emulate native ECM of the tissue. Although composition of the ECM changes with gender, aging disease states, all developed biomaterials constitute a simplified form of the native ECM. Biomaterials composed of ECM can be prepared by processes that involve decellularization of tissues or organs. Physical, chemical and biological approaches are applied in combination with lyses of the cells, followed by extensive washing procedure to remove nuclear components. Decellularization consists of two main steps, including the decellularization of a tissue and sterilization of the decellularized ECM (dECM). Both steps are highly effective in obtaining a biomaterial with the desired properties for the targeted clinical application. dECM based biomaterials encompass mixtures of various biomolecules that regulate cell adhesion, proliferation, migration, and differentiation, such as glycosaminoglycans, proteoglycans, glycoproteins (i.e., laminin, fibronectin and integrin), and structural proteins (i.e., collagen). Therefore, the selected decellularization and sterilization methods should pose a minimal negative impact on the biochemical and morphological composition as well as mechanical properties of the decellularized matrix. In this study, an overview of decellularization methods, their effects on ECM structure and composition are presented along with a PEST (political, economic, social and technological factors) analysis that reveals the status of the dECM-based biomaterials in the market.

Keywords: tissue decellularization, extracellular matrix, glycosaminoglycans, proteins

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COMPARATIVE STUDY OF SSC-PCMS THROUGH DIFFERENT ACTIVATED CARBONS AND PRODUCTION METHODS

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Increasing environmental problems and the rapid depletion of energy resources is a major concern that has led researchers to improve energy storage techniques. Latent heat thermal energy storage methods that use phase change materials (PCMs) have gained importance to overcome certain drawbacks. Although, PCMs have emerged as a promising solution to store thermal energy, leakage problem in PCMs is still a serious issue limiting their application in energy storage. Incorporating activated carbon as a support material has been investigated to eliminate this restriction. In this study, activated carbons with different porous structures were employed as support material to prepare shape-stabilized composite PCMs (SSC-PCMs), using two different methods; direct impregnation and vacuum impregnation. A binary eutectic mixture of stearic acid (SA) and palmitic acid (PA) was used as PCM. The effect of the porous structure of activated carbon and the preparation method was evaluated to determine the most suitable carbon material and production method for the specific purpose of thermal energy storage.

Keywords: PCM's, activated carbon, porous structure, direct impregnation, vacuum impregnation

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GOOGLE AND THE ALGORITHMIC KNOWLEDGE PRODUCTION IN FRAMING AND REFRAMING AI IMAGINARY: A COMPARATIVE ALGORITHMIC AUDIT BETWEEN THE US AND ITALY

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Artificial Intelligence (AI) is creeping into every aspect of human life. As a buzzword, "AI" is ubiquitous and immaterial. This study offers an analysis and comparison of search results from Google concerning the topic of Artificial Intelligence (AI) in two geographically and politically distant contexts: the United States and Italy. As new AI systems, tools, and solutions are developed and implemented in each sector of human life on a global scale, certain imaginaries of AI are emerging. These imaginaries constitute the ground for the public understanding, support, or disapproval of certain AI technologies and regulations. As citizens turn to users, Google remains the dominant gatekeeper of information, thus becoming an influential actor in shaping AI imaginaries. The comparison of search queries conducted in this analysis shows that the sources which Google presents in its search results add to different types of AI imaginaries, consequently influencing public opinion in different, often asymmetrical, ways.

Keywords: AI imaginaries, algorithmic auditing, Google critique, digital knowledge production, search engines, algorithms

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SCREEN TIME IN LEARNING MANAGEMENT SYSTEM AS STUDENT LEARNING TIME INDICATOR FOR ACADEMIC QUALITY ASSURANCE

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Many higher education institutions as well as accreditations provider or regulator use student learning time (SLT) as the basis to determine the credit value of the courses during the curriculum design and development stage. However, in the stage of curriculum delivery, very few research and practice address the validation aspect of the credits due to the difficulty in gathering comprehensive data on actual student learning time in a course. Collecting data with sampling and survey approach may not be accurate to reflect the actual learning time of individual students in the course for the whole period of study or semester. Therefore, this study aims to investigate the potential of screen time data in the learning management system (LMS) as indicator of SLT and develop a computational model to estimate the accuracy of credits value associated with the course. This study used LMS Moodle log as a dataset from a case of computer programming course with students ($n = 504$) for the half of semester (7 weeks). The timestamp data from the dataset has been chosen as screen time indicator were segmented into a minute for each record and then compute the total duration in minutes for every student in a weekly basis. This study found there are variations of average student learning time in LMS on weekly basis for the first 7 weeks in a semester. We also found that the number of students who engaged in LMS after midnight are varied according to week perhaps due to deadlines of assessments. Since many institutions have adopt digital learning as part of their academic operation, our findings could shade the light for the policymakers as well as academicians to utilize the screen time data in LMS towards data-driven decision-making for academic quality assurance in higher education.

Keywords: screen time, student learning time, learning management system, quality assurance

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DEVELOPMENT OF VISUAL ANALYTICS FOR CAMPUS CENTRALIZED EMERGENCY RESPONSE AND DISASTER ASSISTANCE SYSTEM

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It is essential to save lives during emergencies not only in hospitals but also in colleges and universities. Failure to identify risks and take prompt action during catastrophes and emergency situations could result in the loss of life and property for the campus community. This research aims to explore the feasibility of using data analytics to mitigate the risks associated with disasters and emergencies on campus. A prototype of an online reporting system was developed using cloud services to collect relevant data, analyze it, and present the information in an online dashboard for stakeholders to make informed decisions. The study shows that the use of dashboards has a high potential for effectively mitigating risks and identifying appropriate intervention strategies. This research contributes to the ongoing efforts to improve emergency response planning and management in higher education institutions and can be applied to other universities and large community groups to enhance their disaster and emergency response preparedness.

Keywords: emergency response system, campus safety, higher education, data analytics

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WHAT FORM OF ONLINE TEACHING DO HIGH SCHOOL STUDENTS PREFER?

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Due to the COVID-19 pandemic, teaching has moved overnight from a traditional classroom setting to a virtual setting. This has been a great challenge for students, and especially for teachers. Most teachers have not had a lot of experience teaching in a virtual setting. In the course of only a few days, teachers were forced to fully devise and organise teaching subjects without receiving any particular training. Previously, numerous advantages and disadvantages of online teaching compared to traditional forms of teaching have been elaborated. There are three basic forms of online teaching: synchronous teaching, asynchronous teaching based on materials prepared in advance and individually tutoring students. The paper describes research involving 56 9th grade students concerning their attitudes towards online teaching and preferred forms of online teaching. The results suggest students slightly prefer traditional forms of teaching over online teaching. In addition, students appear to favour the asynchronous form of online teaching based on recorded resources as well as teacher availability for prompt feedback. Overall, the conclusion is that, despite some disadvantages of online teaching, it also has some positive features that can possibly be retained in the future.

Keywords: computer science education, online teaching, forms of teaching, pedagogy, student attitudes

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BOTTLENECK ANALYSIS FOR SOIL BED PRODUCTION USING ZERO WASTE SIMULATOR

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European Union defines waste as an extraneous object that is being discarded, intends to be discarded, or is needed to be discarded, attributed to the fact it has the potential to be used. The globe becomes extremely alarmed as the number of wastes tends to increase. The sole option is to sustain waste through reusing and recycling, as there is no initiative way to effectively mitigate or avoid this from occurring. Numerous attempts by using green technology have been taken in recent years to recycle waste into various products, such as fertilizer in the form of a soil bed. Waste has been proven to be appropriate for usage in soil bed manufacture. Chemical waste known as sludge from one oleochemicals industry in Malaysia has been found significantly proven to recycle as soil bed. Thus, the goal of this paper is to present the first section of the research study which is the development of a simulation model for soil beds known as the Zero Waste Simulator (Z-Waste). The Z-Waste simulator has been developed using the simulation technique called Discrete Event Simulation as it is suitable to model process-oriented modelling. The existing process flow of the soil bed production has been modelled and analysed to check for bottlenecks and constraints. Various test scenarios were used to identify the strengths and weaknesses of the existing process flow. As a result, we found that daily consumed sludge per daily production of sludge has contributed to the significant impact on the soil bed production. The amount of sludge per unit product (soil bed) that is used is relatively small compared to the amount of sludge that was produced daily by the industry. This finding is crucial to prepare the industry for possible upscaling strategies that will help to achieve the zero-waste target by 2030.

Keywords: zero-waste, sludge, industry waste, green technology, discrete event simulation

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REVIEW OF COMPLETELY AUTOMATED PUBLIC TURING TESTS TO TELL COMPUTERS AND HUMANS APARTS (CAPTCHA)

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The integration of technology has impacted nearly all industries, resulting in automated processes that utilize the internet to complete various tasks and actions. Web services have become popular for handling routine tasks. However, this advancement has a challenge of verifying the legitimacy and intent of users. Providers of these Web services, whether they are a platform, software, or infrastructure, employ various Human Interaction Proofs (HIPs) to validate the authenticity and intention of their users such as CAPTCHA. CAPTCHA is a program or a system that protects against unauthorized users or robots from having access into ones document. It is in form of a test that humans can pass but computer programs cannot i.e. the program should be simple for human and be robust and difficult for computer to solve. Almost everyone uses CAPTCHA systems to make security and protect services that are internet based from penetrating by computer bots. Different categories of CAPTCHA technologies are discussed in this paper and a detailed analysis on their usability and weaknesses. Subsequently, a new CAPTCHA technique is given as a proposal which is based on hybrid i.e. combining features of two different CAPTCHAs which are image-based and math-based CAPTCHA.

Keywords: CAPTCHA maths, web security, CAPTCHA, image CAPTCHA

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ETHICAL GUIDELINES FOR HIJĀMAH IN MALAYSIA: A REVIEW

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There is a lot of research conducted about hijāmah [Islāmic wet-cupping therapy], mostly focus on its effectiveness in curing specific illness and problems. Least researchers do focus on the ethics of hijāmah even though ethics are very important in guiding the practitioners not to cause harm and to give the best treatment for their patients. Without proper ethics, hijāmah therapists may face risk of litigation by their patients and related regulators. Therefore, this paper aims to review existing literature on ethics of hijāmah within Malaysia context. This study adopts meta-search analysis to extract all relevant literature from research databases and Islāmic texts. Our primary finding indicates that there is a missing integration of Islāmic ethics in the current guidelines developed by the Ministry of Health, Malaysia. Therefore, there is an opportunity to improve the current guidelines by integrating Shari'ah compliance towards sustainable development and preservation of this Islāmic prophetic medicine.

Keywords: ethical guidelines, hijāmah, Shari'ah compliance

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DESIGN AND DEVELOPMENT OF IOT BASED SMART FARMING FOR PLANT DISEASE DETECTION

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This research will examine the many kinds of plants and the various diseases that could harm them before developing a technique to detect plant ailments. Farmers should emphasize the diagnosis of plant diseases when planting in the garden. The procedure of identifying plant illnesses takes a long time if the garden space is too large. Arduino cameras were used to communicate with a system as a result of the development of new technologies like the Internet of Things (IoT). IoT-based Smart Farming for Plant Disease Detection's objectives are to explore plant disease detection with an object-oriented methodology, create a system that includes plant disease classification with machine learning techniques and assess the system. The Agile software development process consists of the following steps: planning, designing, developing, testing, releasing, and receiving feedback. The project was created using Python as the programming language, Flask as the Python web framework, MySQL as the database, Jupyter Notebook for creating model classification, and Visual Studio Code as the code editor. Customers will be able to use both the newly developed system and IoT cameras. This method may therefore more accurately boost evaluation efficacy and efficiency.

Keywords: smart farming, internet of things, plant disease detection

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LITERACY PARAMETERS OF HIJAMAH SERVICES FOR PRACTITIONERS AND USERS

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This paper delves into the significance of literacy in the context of *hijāmaḥ*, an ancient method of healing that has been increasingly adopted in recent years. Despite the growing popularity of *hijāmaḥ*, there is a lack of clarity regarding the literacy levels of both practitioners and users. To address this gap, this study undertakes a review of existing literature on *hijāmaḥ* literacy. The findings of the study reveal that while there are important components related to *hijāmaḥ* literacy scattered throughout various sources, there is a missing comprehensive assessment of *hijāmaḥ* literacy. This lack of clarity could have implications for the quality of *hijāmaḥ* services provided and received, as well as potential risks associated with the practice. The study concludes that the findings could aid policy makers in developing new guidelines for *hijāmaḥ* literacy, with the aim of improving education and training for practitioners and promoting safer practices for the public. However, the study also highlights the need for further research in this area to gain a more in-depth understanding of *hijāmaḥ* literacy and its impact on the *hijāmaḥ* industry.

Keywords: literacy, hijamah, assessment

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MALL & TEACHING WRITING IN ESL: WHAT DO TEACHERS SAY?

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The use of Mobile-Assisted Language Learning (MALL) in teaching, especially in English as a Second Language (ESL) has become an emerging trend globally. In recent years, many educators have started to deliver lessons online using the concepts of MALL, including those in Malaysia, especially during pandemic Covid-19. Writing is an important skill in English language acquisition but the review of using MALL in teaching writing is scarce. Hence, this review focuses on teachers' perspectives and readiness toward the use of MALL in teaching writing among ~English as a Second Language (ESL) learners. Therefore, ~Preferred Reporting Items for Systematic Review and Meta-Analyses~ (PRISMA) guidelines was used to extract 30 articles from the year ranging 2018 to 2022. Two databases, Google Scholar and ~Educational Resources Information Centre~ (ERIC), were used to collate the articles for this review. The findings of this review exhibited the positive perspectives and readiness among the teachers towards the use of MALL. Parents' perspectives should be taken into consideration in future research.

Keywords: education, teaching writing, mobile-assisted language learning, ESL teachers

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EXPLORING THE INTERSECTION OF CLIMATE, FINANCE, AND DIGITAL TECHNOLOGY: A CONCEPTUAL REVIEW OF CLIMATE FINTECH

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Climate change poses enormous economic and political hazards to the global economy. Climate FinTech has become an essential component in digital transformation as the world has realised the urgency of climate change in protecting the environment. Many financial and non-financial organisations are increasingly partnering with FinTech firms to create FinTech initiatives that benefit people and the environment. The growing number of climate FinTech companies has helped to facilitate and expedite the global financial sector's transition toward a more sustainable future and greener world. The main objective of this conceptual paper is to review the past literature to discuss the issues concerning climate FinTech including the challenges and key opportunities for climate FinTech to contribute to sustainable development. The study's findings suggest that climate FinTech is essential in helping businesses migrate to more sustainable business models and more resilient to climate risks that will better integrate circular economy practices and a greener world.

Keywords: climate, FinTech, sustainability, regulation

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STUDY ON THE STRENGTH OF SYNBIOTIC PLANT POTS EXTRACTED FROM OLEOCHEMICAL WASTE

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Oleochemical waste is one of the main sources of environmental pollution. The effluent discharge from the oleochemical wastes causes water pollution after they are discarded to the landfill. Since the demand for oleochemical products is increasing due to worldwide trend of using biological alternatives to replace chemical use in products for pharmaceutical and food industries, detergents, and lubricants. Thus, since the demand of oleochemicals is rising, the amount of waste from oleochemicals increases exponentially. The increase in amount of waste raises concern as to the environmental effects. Apart from that, several studies showed that oleochemical waste contains nutrients which could be beneficial for plant growth and nutrition. Hence, in order to cater the problem with the increasing amount of waste, this study proposes to use the oleochemical waste into plant nutrient enhancer as synbiotic soil bed for plants. This study aims to test the strength of formulation of plant pots made from oleochemical wastes. Six batches of different formulation was done based on Design of Expert (DOE) data and after the formulation and molding is done, Unconfined Compression Test (UCT) was used to determine the strength of the pots. For each batch, six samples were made and tested one by one using the UCT machine, and the average data was calculated. The result showed that batch number 3 have the highest stress value, $2.206 \text{ kPa} \cdot 10^4$ compared to the other formulation batches.

Keywords: oleochemical, waste, plant nutrients, unconfined compression test, design of expert, environment

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AN IPMA ANALYSIS OF THE INTERNAL CONTROL SYSTEM IN MALAYSIAN STATUTORY BODIES

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An internal control system is a crucial system and governance aspect in public organisations. It acts as a defence mechanism, safeguards, direction, and warning system for anomalies or red flags. Each organisation must have such a system. Hence, it is vital for organisations, especially public sector organisations, to instil an internal control system. However, what is the level of internal control system, specifically in Malaysian statutory bodies. Thus, this study focuses on analysing the internal control system in Malaysian statutory bodies and whether they have what all the proposed global standards of the internal control system want. As recommended by COSO and INTOSAI, there are five elements of the internal control system: control environment, risk assessment, control activities, information and communication, and monitoring. The study collects data by distributing questionnaires to all Chief Executive Officers of statutory bodies. 194 out of 291 questionnaires were successfully gathered. Each element was above average, and the overall mean of the internal control system scored 5.597 out of seven scales. This shows that internal control systems in Malaysian statutory bodies are high. Further, an IPMA analysis was conducted and found that among those five components, Control Activities were found to be less performed. So, the statutory bodies, especially the internal auditors, should invest more in enhancing Control Activities. Nevertheless, the current internal control system should be maintained and enhanced through top management commitment and information systems. So, there is still room for improvement to obtain a higher score. A sound and robust internal control system reflect good governance, especially in public sector organisations.

Keywords: internal control system, risk assessment, governance

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EFFECTIVENESS OF THE USE OF PAINTING IN ART THERAPY TO REDUCE PSYCHOLOGICAL PRESSURE IN ADOLESCENTS

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A wide variety of research is continually being conducted on the effectiveness of the use of art therapy (drawing). Many people believe that the therapy in question is just a means of entertainment; considers that there is no realistic treatment that produces a meaningful result. Psychological stress is a common social reality among individuals and anyone who uses it, and has become a common problem among many young people. Because the adolescence period is characterized by some unique features compared to other periods of life as a result of some factors that make young people vulnerable to many psychological problems. Because during adolescence, young people feel many psychological pressures of family, emotional, academic, social and physiological origin. This puts obstacles in the psychological and social life of young people and creates difficulties and many problems in communicating with others. At this point, since art is a means of expression and a method of treatment, it can be a tool for treatment or to alleviate the psychological pressures that the adolescent is exposed to. In this treatment method, the young person finds the opportunity to express what is inside and to get rid of the factors that create psychological pressure. Accordingly, there is a need to draw the attention of clinical researchers and experts to this issue.

Keywords: art therapy, psychological pressure, adolescent

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**REHARMONIZING ISLAM AND SCIENCE OF CREATING A SCIENTIFIC CIVILIZATION
BASED ON RELIGIOUS VALUES: CASE STUDY OF INDONESIAN FUNDAMENTALS
PANCASILA**

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The deviated assumption between religion especially Islam and science has been in vogue for a while. The vast majority of people today explicitly distort the fundamental norms of Islam and what is taught in today's modern science and culture. Take Islamophobia as an example, it is a prevailing view of Islam being—violent, full of terror, and inhuman. On the other hand, experts are starting to find that it is a big mistake to differentiate between religion and science. For instance, it turned out that many of today's scientific discoveries were written thousands of years ago in the Qur'an the holy book of Muslims—the orbit of the solar system (astronomical perspective) written in Al-Anbiya 33, the formation of rainwater (geographical perspective) written in Ar-Rum 48-49, the formation of fingerprints (biological perspective) written in Al-Qiyamah verse 3. Indonesia is a country that is successful in uniting multiculturalism and at the same time is one of the countries with the most Muslim population. The state does not differentiate between religion and science, let alone separate them. In Indonesia, the state harmonizes Islam and science in the Pancasila as the *kalimatun sawa*, the meeting point between spiritual needs and the encyclopedias reality to create a scientific civilization based on religious values. Reflecting on scientific evidence and a country as a role model for the success of the harmonization of religion and science, the world, therefore, should not distinguish between these two interrelated things. Innovation in science based on religious values is very important to re-harmonize religion and science. This study uses a qualitative method. The data in this paper are sourced from reviews, as well as literature relevant to the writing. The results of the reviews, as well as the relevant literature, were then analyzed and shown.

Keywords: reharmonizing, scientific civilization, religious values

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DISCLOSING GHG EMISSIONS IN THE PERSPECTIVE OF STRATEGY, PERFORMANCE, AND REPORTING: A Y-SHAPE MAPPING APPROACH

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This study proposes a Y-shape mapping approach as an intuitive and accessible way of visually representing greenhouse gas emissions disclosure, which enhances the quality of emissions disclosures and promotes transparency for informed decision-making by stakeholders. The study takes a conceptual approach to propose a new Y-shape mapping approach for greenhouse gas emissions disclosure and its potential benefits for stakeholders. It supports its proposal with a simulation to illustrate the potential benefits of the approach. The Y-shape mapping approach could help identify inconsistencies or shortcomings in emissions disclosure categories and provide stakeholders with a preliminary picture of a company's emissions disclosure based on a distinct pattern. The proposed approach needs empirical testing in real-world settings to evaluate its effectiveness and may require further evidence to support its potential benefits. The Y-shape mapping approach for greenhouse gas emissions disclosure could facilitate stakeholder engagement by providing an intuitive language for discussing emissions disclosure and its sustainability implications. It may inspire further research and innovative approaches to enhance sustainability reporting quality and promote more responsible business practices. This study proposes a novel Y-shape mapping approach for greenhouse gas emissions disclosure that enhances the quality and transparency of emissions data, and promotes sustainability and responsible corporate behaviour, thereby offering significant value to stakeholders. This is a conceptual or theoretical study.

Keywords: GHG emissions disclosure, Y-shape mapping, strategy, performance, reporting

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**PRELIMINARY DATA ON SYSTEMATICS AND STRUCTURE OF NEMATODE
ASSEMBLAGES IN ESTUARINE ENVIRONMENTS, ALBANIAN ADRIATIC SEA COAST**

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Phylum Nematoda ranks among the most ubiquitous organisms on earth, colonizing almost every conceivable habitat. However, despite their wide spread, assemblages of nematodes in certain habitats present their own pattern depending on the influencing role of the habitat and the complexity of its ecological conditions. The present work brings data on systematics and distribution pattern of free living nematodes from different sandy beaches, located near the estuaries of three main rivers of Albania flowing towards the Adriatic Sea. The study was conducted under the faunistic study of meiofauna communities. Sediment samples were collected manually, using a cylindrical corer, with an internal diameter of 5 cm, through a 5 cm depth sediment column. The extraction of meiofauna organisms was performed through a sieve of 42 μm mesh size. Nematodes dominated all meiofaunal communities in all sampled habitats under the study. Their assemblages were further analysed in term of composition and structure, determining taxonomic composition up to genus level and biological traits. For each identified genus, habitat affiliation, trophic group and life strategies were determined. Each different habitat presented a distinct nematode assemblage in diversity, dominance and biological traits. Different assemblages presented some exclusive genera of the respective habitat, as well, shared genera due to the connectivity of the habitats and dispersal capability.

Keywords: nematode assemblages, taxonomic composition, biological traits, estuarine environments, Adriatic coast

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**AN ENHANCED SIMULATION MODEL USING INTEGRATED AGENT-BASED
SIMULATION AND SOCIAL FORCE THEORY FOR MODELLING HUMAN EVACUATION
IN CLOSE BUILDING: IMPLEMENTATION AND DEVELOPMENT**

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Crowds, emergency and traffic evacuations are examples of social systems. These complex, dynamic systems are challenging to analyze and comprehend. Two well-known techniques for modelling and simulating social systems are the agent-based (AB) model and the social force (SF) model. Whereas social force modelling focuses on the forces that impact an agent's behavior, agent-based modelling focuses on the behavior of individual agents. Although each technique has its own advantages and disadvantages, combining them can result in a more complete and accurate knowledge of social systems. This work aims to combine both of these techniques, AB and SF, and capture the interactions between individual agents and the forces that influence their behavior, leading to more realistic and nuanced simulations of social systems. Nevertheless, there are difficulties involved in combining agent-based and social force modelling, such as choosing the appropriate amount of granularity and complexity and making sure that the simulation faithfully replicates the real-world system being represented. Hence, in order to overcome these obstacles and present a more precise and thorough knowledge of social systems, the creation of a framework for combining various methods is crucial. This paper presents the implementation and development of a simulation model with integrated AB and SF techniques. More complete and accurate knowledge of social systems as well as improved decision-making across a variety of disciplines are expected outcomes of combining agent-based and social force modelling

Keywords: simulation model, crowd evacuation, indoor evacuation, social force, agent-based model

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ASSESSING PROFESSIONAL SKEPTICISM AND FRAUD DETECTION AMONG MANAGEMENT ACCOUNTANT: THE CASE OF MALAYSIAN PUBLIC COMPANIES

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This study explores whether management accountant fraud detection are biased in favour of management when the tone at the top is good or bad, given the significance of management accountants in ensuring great corporate governance. Additionally, this study investigates whether behaviours that may help management accountants (MA) detect fraud more successfully are linked to higher degrees of skepticism. The Hurtt Skepticism Scale, which was adopted, classified MAs who responded to a questionnaire as either high or low sceptics based on six characteristics: questioning the mind, searching for knowledge, suspension of judgement, interpersonal understanding, self-confidence, and self-determining. The goal of this study is to ascertain how professional skepticism and tone affect a management accountant's capacity to spot and stop fraud. The findings of a study involving 237 management accountants show that when the tone at the top is positive, management accountants report a higher risk of fraud prevention and detection. This suggests that management accountants are more skeptical when it is supported by a positive tone at the top, and that a negative tone at the top is a warning sign for financial misstatements. The findings showed that professional skepticism can be used as a useful tool to reduce management accountants' ability to prevent and identify fraud and that MAs with higher degrees of professional skepticism are better at doing so

Keywords: tone at the top, professional skepticism, fraud prevention and detection, management accountant

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THE EFFECTIVENESS OF THE STEM KID MODULE FOR HIGH AND MODERATE ACHIEVERS ELEMENTARY SCHOOL CHILDREN TOWARDS SCIENTIFIC LITERACY

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The aim of this research is to determine the effectiveness of the 'STEM Kid Module on the scientific literacy of fifth-grade students in the 'Energy' topic. The module was developed using two learning theories: constructivism and constructionism. Based on the combination of these fundamental theories, the STEM Kid instructional phase was developed using a STEM integrated approach that included engineering design processes and inquiry-based science learning. A quasi-experimental design with non-equivalent pre-test and post-test control group designs was used to assess the effectiveness of the STEM Kid Module. This study included 116 children, 61 of whom were high achievers ($n = 61$) and 55 of whom were moderate achievers ($n = 55$). Two elementary schools using the STEM Kid Module was selected as the treatment group ($n = 59$), while another using conventional teaching approach was identified as the control group ($n = 57$). Data for this study were gathered by a scientific literacy test that included (i) scientific knowledge, (ii) science process skills, and (iii) daily science application. Results from repeated measurements MANOVA analysis revealed a significant difference in scientific knowledge and daily science application between groups. As expected high achievers outperformed moderate achievers in scientific literacy. The study's implication was that the use of the STEM Kid Module through a STEM integrated approach can be implemented in elementary school science teaching and learning for children of varying levels of achievement. As a result, it is proposed that the STEM Kid Module can be used as a teaching guideline for science teachers as well as a useful learning material for children to enhance their scientific literacy.

Keywords: science education, STEM, engineering design process, children, scientific literacy

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AN INQUIRY INTO THE CRITICAL THINKING DISPOSITION OF TURKISH PRE-SERVICE TEACHERS: A THEMATIC ANALYSIS OF THESES

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This study aims to examine the theses on the critical thinking disposition of teacher candidates in Turkey. The document review method was used, which deals with documents related to a specific subject with a qualitative approach. The data of the research were analyzed by content analysis method. The Turkish Council of Higher Education (TCHE) national database was searched using the keywords "teacher candidate" and "critical thinking disposition," and 30 accessible theses were included in the research. Theses reached within the scope of the research; It was analyzed according to the themes of "academic level," "year," "scope of the subject," "research method," "sample," "data collection tools," "analysis method" and "results." The thesis studies were examined by two experts and coded according to themes. The percentage of agreement among experts was determined as 95%. It was understood that many of the theses examined were master's theses and were completed in 2019. It was observed that the samples of most of the theses consisted of social studies and science teacher candidates. It was determined that the Relational and Comparative research models were used more in the theses examined. t-Test, ANOVA, and correlation techniques are the most preferred techniques for data analysis. The number of theses in which qualitative research models are used is quite limited. The reviewed theses have focused on demographic characteristics, media literacy, entrepreneurship, emotional intelligence, and 21st-century skills as the primary correlates of critical thinking disposition. According to the results of the research, several recommendations have been developed.

Keywords: critical thinking disposition, pre-service teachers, graduate theses, content analysis

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**AN OPTIMIZED VIRTUALMODEL OF VACCINATION CENTRE OERATIONS IN MALAYSIA
USING HYBRID AGENT-BASED AND DISCRETE EVENT SIMULATION**

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A number of booster doses and novel vaccinations have been chosen by health scientists in response to the latest pandemic epidemic and the identification of new strains. In light of this, it is essential to build additional vaccination facilities that are flawlessly planned and optimised to boost their agility and effectiveness, particularly in a country with a diverse population and a burgeoning tourist industry like Malaysia. Because only medical facilities, public buildings, and private structures are modified and reconfigured to function as vaccination centres. Based on different factors including population, transmission hazards, vaccination rate, availability of frontliners, and ergonomics at vaccination centres, a more practical, standard, portable, and flexible vaccination centre PPV (Pusat Pemberian Vaksin) model would be required. In order to promote vaccine administration protocol agility, decrease transmissions, and boost overall performance efficiency of Malaysian vaccination centres, this project aims to create an optimum virtual vaccination centre model. The study is divided into four stages and uses a mixed-methods research design. An initial investigation will be conducted to assess the present PPV-related activities in Malaysia. The next two steps involve quantitative analysis using a combined strategy of agent-based and discrete event simulation to comprehend how the system, which consists of vaccine recipients, medical personnel, facility ergonomics, vaccination centre agility, and performance efficiency, behaves. In addition to providing the best movement patterns, anti-transmission SOPs, facilities and ergonomics, shorter waiting times, and general agility and efficiency of the PPV, this research will give a thorough analysis of the Malaysian PPVs.

Keywords: vaccination centre, agent based modelling, simulation modelling, optimization, discrete event simulation

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LEAD SCREENING IN CHILDREN AND ITS ASSOCIATION WITH THE BEHAVIOURAL PROBLEMS IN KSA

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Lead (Pb) is one of the earliest discovered metals. the vast body of the literature was dedicated to its toxicity to human. It causes irreversible illnesses, including neurophysiological disorders. Children's brains are more sensitive than adults to allowing access to entry of Lead, this made them vulnerable to many neurological and behavioral disorders. This study aims to evaluate the association between blood lead concentration and developmental delay and behavioral issues in Saudi children, and to explore Lead sources that the Saudi children might have been exposed to. Two quantitative methods were used to measure the lead level in blood specimen, Atomic Absorption Spectrometry and rapid test (Lead Care II Blood Lead Testing System). A total of 111 subjects were included in this study, 55 subjects with neurological disorders and 56 healthy subjects. A validated questionnaire by CDC was completed by consented participants to identify the common lead sources in the central region of Saudi Arabia. Our data show that only 13.75% of the patients have high blood lead level (BLL) more than 5µg/dL. However, this increased of BLL in patients when compared with controls was not significant ($P<0.58$). Also, 11.2% of our controls showed an increase in blood lead level more than 5µg/dL with no symptoms. According to the survey outcomes, almost half of the Saudi population with 46.4% are using the tap water for cooking or drinking. This could be one of the sources of lead exposure in KSA. Though our findings, suggested that there is no association between the elevated BLL and neurodevelopmental and behavioral disorders among the participants of this study. Yet, the seemingly high BLL in children with ADHD and other disorders expedite the need for another study with a bigger sample size, with more attention to geographical representation for all the regions of the Kingdom.

Keywords: neurophysiological disorders, Lead toxicity, Lead poisoning, ADHD, anxiety and blood lead level

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BIBLIOMETRIC REVIEW ON TVET AND INDUSTRY COLLABORATION

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TVET is an education and training process with a strong emphasis on industry practises that strives to generate competent workers in particular fields. Cooperation with industry in TVET has the potential to improve the quality and relevance of TVET programmes and equip students with the practical skills and knowledge demanded by employers. Thus, there is a need for a complete bibliometric study of research linked to collaboration between TVET and industry, despite the fact that the number of studies in this field continues to increase. The bibliometric analysis in this research which was extracted from Scopus database is analyze using VOSviewer. The research conducted a descriptive analysis of the publication number trends, the top authors and leading journals in this field. Next, the researcher also analyzed the co authorship based on authors and countries, research trends, citation and keywords analysis as well as co citation analysis. The article found that most of the articles in this field are published by authors from developed countries where the majority is from the United States. Other than that, the recent research hotspot were also identified indicating the future direction of the research in this field.

Keywords: bibliometric, TVET, engineering, industry, collaboration

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EMOJI AS A MEANS OF COMMUNICATION-DERIVATION FROM USE OF ALBANIAN LANGUAGE

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Language is a tool of communication. Communication is a process of conveying messages. Language changes dynamically, as new words can be created. Communication is considered static, as its basic steps remain unchanged. But the basics of communication do not change. However, new words enter to the dictionary/vocabulary language almost daily. Communicating with others is a basic human need. Healthy living involves interacting and engaging with others. And our primary means of doing so is through shared language. Language is a system of communication that relies on verbal or non-verbal codes to transmit information. Communication is a way of interchanging messages or information between two or more people, focusing on the message. Over the last years we have witnessed evolution of communication through emoji. This type of communication consists in these aspects: Linguistic economics Fast communication Skipping grammatical rules Failure of language evolution Concealment of emotions The results of the study will be derived according to the qualitative and quantitative method, through a questionnaire directed to a sample of 100 students in different study programs. The answers to the questionnaire will be analyzed by coming out with conclusions and recommendations.

Keywords: communication, Albanian language, emoji, language system

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CAN ChatGPT FACILITATE THE IMPLEMENTATION OF THE PERSONAL LEARNING ENVIRONMENT IN TERTIARY EDUCATION: BENEFITS AND RISKS

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The integration of ChatGPT in Personal Learning Environments (PLEs) has emerged as a promising approach to personalized learning in tertiary education. ChatGPT is believed to have the potential to transform traditional higher education into a more personalized, quality-driven, and student-centered learning experience that fosters critical thinking, self-regulated learning, and creativity. While recent studies have highlighted the potential benefits of ChatGPT in enhancing personalized learning experiences, there are several risks and challenges that need to be addressed. This paper reviews relevant literature on ChatGPT and PLEs and identifies key risks and challenges associated with their integration, including ethical concerns, data privacy, technical issues, and user acceptance. Meanwhile, the paper also proposes ways and thoughts for the future implementation of ChatGPT in PLEs. The paper concludes that ChatGPT has significant potential to facilitate a new round of educational revolution which pushes educators to reconsider why to teach, how to teach, and what to teach.

Keywords: ChatGPT, chatbot, personalized learning, Personal Learning Environments, higher education, benefit and risk

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