



ICRTMDR-2022

5TH INTERNATIONAL CONFERENCE ON RECENT TRENDS IN MULTI-DISCIPLINARY RESEARCH

09TH & 10TH DECEMBER 2022

Virtual Conference



Organized by
**Institute For Engineering Research and
Publication (IFERP)**

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5TH INTERNATIONAL CONFERENCE ON

2022

RECENT TRENDS IN MULTI-DISCIPLINARY RESEARCH



09TH & 10TH
DECEMBER



ICRTMDR-22

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We cordially invite you to attend the 5th International Conference on Recent Trends in Multi-Disciplinary Research (ICRTMDR-22)-Virtual Conference which will be held on 09th-10th December 2022. The main objective of this conference is to provide a platform for researchers, students, academicians as well as industrial professionals from all over the world to present their research results and development activities in Research and Practices. This conference will provide opportunities for the delegates to exchange new ideas and experience face to face, to establish business or research relationship and to find global partners for future collaboration.

These proceedings collect the up-to-date, comprehensive and worldwide state-of-art knowledge on cutting edge development of academia as well as industries. All accepted papers were subjected to strict peer-reviewing by a panel of expert referees. The papers have been selected for these proceedings because of their quality and the relevance to the conference. We hope these proceedings will not only provide the readers a broad overview of the latest research results but also will provide the readers a valuable summary and reference in these fields.

The conference is supported by many universities, research institutes and colleges. Many professors played an important role in the successful holding of the conference, so we would like to take this opportunity to express our sincere gratitude and highest respects to them. They have worked very hard in reviewing papers and making valuable suggestions for the authors to improve their work. We also would like to express our gratitude to the external reviewers, for providing extra help in the review process, and to the authors for contributing their research result to the conference.

Since September 2022, the Organizing Committees have received more than 90 manuscript papers, and the papers cover all the aspects in Research and Practices. Finally, after review, about 45 papers were included to the proceedings of ICRTMDR-22.

We would like to extend our appreciation to all participants in the conference for their great contribution to the success of ICRTMDR-22. We would like to thank the keynote and individual speakers and all participating authors for their hard work and time. We also sincerely appreciate the work by the technical program committee and all reviewers, whose contributions made this conference possible. We would like to extend our thanks to all the referees for their constructive comments on all papers; especially, we would like to thank to organizing committee for their hard work.

ABOUT IFERP

ICRTMDR-22

Institute for Engineering Research and Publication (IFERP) is a multidisciplinary professional organization dedicated to Research and development within the field of science, engineering and technology. IFERP is a preponderant body that has brought technical revolution and development of science and technology. The IFERP-forum constitutes of professional experts and overseas technical leaders. There is no stone unturned to strengthen the spheres of science, engineering, and technology. These days IFERP is one among the leading publisher of research papers in its prime quality peer-reviewed journals, continuing and analysis magazine.

The Institute provides an excellent scope of research and development to geni and experts operating within the field of engineering by providing monetary aids by that economic constraints will not create a hindrance to the technical growth and analysis development. The institute is supported by its International advisory Board (IAB) that isn't restricted to the landmass rather we've intellects from geographical area to spice up our organization.

OUR MISSION

To assure quality of incubation and innovation processes from nook and corner of world.

To connect professionals at a integrated platform for growth to divert knowledge and skills towards sustainable application of professional education.

To ensure excellent opportunities for sharing and gaining knowledge through our professional activities and scientific conferences.

To work with organisations to upgrade scopes of professional studies and research by monitoring further opportunities and applications.

OUR VISION

Of a united platform to explore research with opportunity to innovate multidisciplinary scopes and applications of professional studies.

Of a conglomerate of scientific and academic associations working for humanity.

Of digitalising innovation processes through our professional networking services.

THEME

**INNOVATION
CHALLENGES IN
MULTI-
DISCIPLINARY
RESEARCH &
PRACTICE**

- ICRTMDR-22



MESSAGE FROM MD, IFERP

ICRTMDR-22



Mr. A. Siddh Kumar Chhajer

Managing Director & Founder,
Institute For Engineering Research
and Publication (IFERP)

On behalf of IFERP & the organizing Committee, I express my hearty gratitude to the Participants, Keynote Speakers, Delegates, Reviewers and Researchers.

The goal of the ICRTMDR is to provide knowledge enrichment and innovative technical exchange between international researchers or scholars and practitioners from the academia and industries in various fields of academics. This conference creates solutions in different ways and to share innovative ideas in the field of Science, Management, Engineering, Education & Technology. ICRTMDR provides a world class stage to the Researchers, Professionals, Scientists, Academicians, and students to engage in very challenging conversations, assess the current body of research and determine knowledge and capability gaps.

ICRTMDR will explore the new horizons of innovations from distinguished researchers, scientists and eminent authors in academia and industry working for the advancements in Multidisciplinary Research and Practices from all over the world. ICRTMDR hopes to set the perfect platform for participants to establish careers as successful and globally renowned specialists in various fields of Academics.

A. Siddh Kumar Chhajer

Mr. A. Siddh Kumar Chhajer

MESSAGE FROM CEO, IFERP

IFERP



**Mr. Rudra Bhanu
Satpathy**

**CEO & Founder,
Institute For Engineering Research
and Publication (IFERP)**

IFERP is hosting the 5th International Conference on Recent Trends in Multi-Disciplinary Research (ICRTMDR-22) this year in month of December. The main objective of ICRTMDR-22 is to grant the amazing opportunity to learn about groundbreaking developments in modern industry, talk through difficult workplace scenarios with peers who experience the same pain points, and experience enormous growth and development as a professional. There will be no shortage of continuous networking opportunities and informational sessions. The sessions serve as an excellent opportunity to soak up information from widely respected experts. Connecting with fellow professionals and sharing the success stories of your firm is an excellent way to build relations and become known as a thought leader.

I express my hearty gratitude to all my Colleagues, Staffs, Professors, Reviewers and Members of organizing committee for their hearty and dedicated support to make this conference successful. I am also thankful to all our delegates for their pain staking effort to make this conference successful.

A handwritten signature in blue ink, appearing to read 'Rudra Bhanu Satpathy'. The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Mk.Rudra Bhanu Satpathy

WELCOME MESSAGE



Mr. Prashant Dahalkar

Associate Vice President
Global Head for Cloud Data Practice
Delivery & Consulting,
Hexaware Technologies,
Bengaluru, Karnataka, India

ICRTMDR-22

I am extremely delighted to participate in the 5th international conference on recent trends in multi-disciplinary research, 2022 which is organized by Institute for Engineering Research and Publication (IFERP).

Every speaker, organizer team member, volunteer and participant is special as the knowledge shared in this forum will enrich everyone's life and in turn will have cascading impact on our society.

Being associated with IT and cloud technology for many years, I am sure in this era, the Internet, the Internet of Things, advanced and smart technologies, and other advancements in sustainable technologies, we are going to revolutionize the way life is handled. In the post covid era, we all are already well adapted to the digital trends in life sciences and pharma world, so let's see how we can carry this forward and make it the new BAU. I am certain that this conference will provide researchers and scholars with in-depth insight into theoretical and practical backgrounds related to latest technology and business trends.

I wholeheartedly appeal to all participants to move forward to conduct further advanced research to make the nexgen's life more predictable and at the same time more connected to their daily needs and not just for emergency services.

My special thanks to the organizers for their great efforts in making this scientific event remarkable, stimulating, and successful. My thanks also go to all the participants. Wishing you all the best.

Short Introduction

At Hexaware, leading the enterprise cloud data practice for delivery and consulting engagements.

Built, Drove and Led an AIA Technology practice within Cognizant with focus on solution architecture for data modernization, cloud adaptation and data retention & protection.

Chief Architect and technology leader for a portfolio with multiple clients with AIA revenue of \$100+ million.

Instrumental in winning some of the big Nex-gen multi-year technology deals.

Enterprise Architect with 21-year experience, driving cloud-based data modernization and BI solution implementations for major clients in Europe.

Won various accolades like Technology Champion of the year, Cloud Project of the Year and hands on / trained & certified on AWS and google cloud services.

Awarded for being GecC coach - Coached 3000+ freshers and leading faculty development programs at various colleges across India.

Awarded by the client for setting up Azure based Enterprise data platform.

Led and built successful factory models with program management for Data retention and Data protection engagements along with Big Data initiatives .

Developed a team of experts on cloud technologies, Informatica ILM/TDM, IBM Optim Data Growth, Rainstor, EMC IA and Big Data / cloud-based Data retention and Data protection solution.

Experience in developing business application data models, database application development and performance tuning using various analysis, design, and development tools and techniques.

Managed and supported various RDBMS including DB2 UDB, Oracle, Mysql, Oracle Timesten (In-Memory Database). Worked on PostgreSQL, Snowflake and SQL tuning.

WELCOME MESSAGE

ICRTMDR-22



Mr. Amith Ashokan

Director - Managing Partner
Aysdev Global Consultancy LLP
Mumbai Area, India

Participating as a Session speaker for the 5th International Conference on Recent Trends in Multi-Disciplinary Research (ICRTMDR-22) organized by Institute for Engineering Research and Publication (IFERP) is a great pleasure.

With my experience of over two decades in Cross-Domain Technologies advising Directors, CXOs, leading corporates and Edtechs, and business planning cycles for various business verticals, defining frameworks for performance evaluation, project management, measuring and tracking performance for Business Institutions. This event creates enthusiasm to collaborate and grow.

IFERP's contribution towards multi-Disciplinary Research and development plays a vital role in developing and formulating research strategies.

I wholeheartedly appeal to all participants to move forward to conduct further advanced Research in Multi-Disciplinary Technology and Cross-Domain scenarios.

I would especially like to thank the organizers for their extraordinary efforts to make this an exceptional, exciting and successful scientific event. I would also like to thank all the participants. Finally, I wish the team ICRTMDR-22 all the best.

WELCOME MESSAGE

IFERP



Shri. Virendra Sharma

Motivational Speaker in India, Youth Mentor, a TEDx Speaker, Corporate Trainer, Futurist Keynote speaker, Life Changing Coach, Start-up Mentor, India

I am highly obliged to be a speaker in the 5th International Conference on Recent Trends in Multi-Disciplinary Research (ICRTMDR-22), which is organized By Silicon City College, Bengaluru in association with Institute For Engineering Research and Publication (IFERP).

This event is going to be highly useful for the researcher sand scholars and this event is going to be insight about the new developments and innovations going around the globe.

We are living in this new area where advancements in sustainable technologies have become the most indispensable parts of our life and this through this event we are going to get a glimpse of the new tech and many other advancements around us.

The concept of this conference is very unique and this will help us to solve many challenges around the globe specifically on the domains and verticals introduced in this conference.

I am certain that this conference will provide researchers and scholars with in-depth insight into theoretical and practical backgrounds related to sustainable technologies.

I wholeheartedly appeal to all participants to move forward to conduct further advanced research in Sustainable Technology.

I specially thanks to the organizers for their great efforts in making this scientific event remarkable, stimulating, and successful. My thanks also go to all the participants. Wishing you all the best.

Virendra Sharma

Motivational Speaker in India, Youth Mentor, a TEDx Speaker, Corporate Trainer, Futurist Keynote speaker, Life Changing Coach, Start-up Mentor

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Energy Consumption Analysis of Construction Equipment in Building Structural Activity based on Green Construction to Reduce Carbon Emission Levels

Dimas Wicaksono

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Abstract

Construction is an activity of planning and implementation based on a detailed contract document, especially for buildings. The implementation of construction projects that are effective, efficient, qualified, reliable, and environmentally friendly need to be supported by quality assurance of construction resources so that they can be classified as green construction. In this case, construction equipment is an important factor in every construction work, one of them is by paying attention to the specifications of construction heavy equipment and appropriate transportation equipment starting from the initial stage of project planning. This aims to reduce the carbon emissions generated from each of these tools. The location used for research, is a government office building and the data is accompanied by Bill of Quantity (BOQ) consisting of preparation, soil work, foundation work and structural work. The results showed that foundation and mobilization of construction materials required a large amount of fuel compared to others. With the greater amount of fuel used, the emissions produced will be equivalent. One of the solutions is to choose the closest construction material pick-up route during the work is in progress. Thus, the percentage of carbon can be reduced to 20% of total emissions of building structural works.

Keywords

Green Construction, Construction Equipment, Carbon Emission, Structural Work, Building Construction

Multi-Objective Load Balancing Based Energy-Efficient Routing on WSN Using Adaptive Rain Optimization

A.D.Bharath

Ph.D Research Scholar, Department of Computer Science, Hindusthan College of Arts and Science, Coimbatore, India

Dr.N.Revathy

Professor, PG and Research Department of Computer Applications, Hindusthan College of Arts and Science, Coimbatore, India

Abstract

In many applications, the Wireless Sensor Network (WSN) is utilized which needs network lifetime maximization. Several clustering methods have been developed, however they experience the adverse effects of irregular clusters, which ultimately make the network inconsistent. This triggers the energy hole problem around the base station. It is, therefore, the basis for a proper clustering of sensor mode, to guide information and effectively conserve energy, and to avoid accidental network failure due to the power drain. In this paper, proposed adaptive rain optimization (AROA) algorithm based on energy-efficient load balancing on WSN for efficient routing is proposed. To achieve this concept, two novel fitness functions are developed for the routing and clustering process. The proposed approach consists of two main stages such as clustering and routing. Initially, the sensor nodes are clustered to avoid the load balancing problem. After the clustering process, the routing is performed. The routing process improves the lifetime and decrease energy consumption in the network. The presentation of the projected approach is analyzed in terms of delay, energy consumption, throughput, drop, network lifetime, and overhead and delivery ratio. The projected technique is implemented with the consideration of NS2 simulator and presentation are contrasted with conventional techniques i.e., Genetic Algorithm (GA) and Particle Swarm Optimization (PSO).

Keywords

Energy Efficient, Load Balancing, Performance Metrics, Adaptive Rain Optimization Algorithm, Efficient Routing

A Data-Driven Recommender System for Designing and Development of Energy Efficient Software

Dr. Abdellatif El Idrissi

Cappemini Engineering - Direction Recherche & Innovation, France

Abstract

In our current world, every day there is a lot of new Internet and technology devices and applications coming into the market. However, to operate all the time, these technologies rely on a huge consumption of energy. Therefore, it is of great significance to study the energy-saving issues of Information Technologies (IT). Some previous works exist on the side of hardware, but for software side it's not yet enough. In this paper, we present an interactive contextual recommender system for energy efficient software. The proposed system is constructed using the Case-Based Reasoning (CBR) approach and is driven by a database built of continuously evaluated guidelines (best practices) called userCases. This database stores contextual performances of guidelines related to the functions and algorithms most frequently used by software developers and designers. By analyzing this database using methods of Artificial Intelligence (AI) and Natural Language Processing (NLP), we developed a sophisticated system of evaluation of the gathered guidelines which allows to determine a scoring model using the Gilbert's Performance Triangle (GPT). This scoring model is also able to interactively capitalize the user experience feedback and thus enhancing its global accuracy. Conducted empirical experiments have shown salient results regarding the gain of energy.

Keywords

Recommender System; Energy Efficient Software; Gilbert Model; Green It; Programming Sustainability, Software Engineering

Phonological Idiosyncrasy of Kawayan Dialect of Southern Negros, Philippines

John Gerald A. Pilar

Faculty, General Education Department, Carlos Hilado Memorial State University, Philippines

Abstract

This study aimed to analyze the phonological idiosyncrasy features of the Kawayan dialect in Southern Negros, Philippines. There were nine purposively identified native speakers based on the selection criteria situated in the rural areas of the municipalities of Cauayan, Hinoba-an, and Sipalay City in Negros Occidental. This study employed a qualitative text analysis method using transcripts of face-to-face interviews and other interactions between the researcher and native speakers. Phonological features and segmental sounds of the Kawayan dialect were done to examine the phonetic features of the dialect. The findings manifested that the Kawayan dialect had 4 vowel sounds [a], [i], [u], and schwa sound-[ə] may vary according to the point of articulation of the native speakers. This study also revealed 13 consonants such as [b], [p], [m], [d], [n], [l], [t], [s], [g], [ŋ], [k], [ʔ], [h] and 2 semiconsonants, [w], [y]. Some consonants do not appear from the informants like labiodental [v], [f], interdental [ð], [θ]; voiced alveolar-fricative [z]; palatal-fricative [ʒ], [ʃ]; palatal-affricate [dʒ], [tʃ], and alveolar-liquid [r]. The nonexistence of the mentioned consonants is foreign by nature. The tongue of the native speakers used to sound these consonants as in [v] may substitute the sound to the native speakers as [b]; [f] to [p]; [z] to [s], and no sound equivalent for interdental, palatal-fricative, palatal-affricate. The alveolar-liquid [r] has not also manifested from native speakers, and it is uncommon and hard for native speakers to execute this kind of sound [r]. It is recommended that the phonetic features of the Kawayan dialect need more tokens and in-depth analysis for confirmation of the present findings.

Keywords

Dialect, Idiosyncrasy, Phonological, Segmental Sound, Semiconsonants

MGC2: Enhanced Energy-Efficient Head Election Protocol in Wireless Sensor Network

N. Senthilkumar

Ph.D Research Scholar, Department of Computer Science, Hindusthan College of Arts and Science, Coimbatore, India

Dr.N.Revathy

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Abstract

Even though wireless sensor networks (WSNs) have been employed for more than a decade, it is currently widely utilised by a variety of contemporary applications, including medical observation, disaster management, and environmental monitoring. In addition to the low channel bandwidth, this form of network also has limited energy and a short lifespan. Due to the significant influence of communication costs on the power consumption of nodes, bandwidth poses the greatest hurdles to such systems. Clustering has shown to be one of the most effective strategies for conserving energy in WSNs. We proposed MGC2 method to enhanced energy efficient head election protocol in WSN. The proposed method has used cluster assortment and waking latent algorithm. Simulations results demonstrated that MGC2 is successfully achieved 5% of throughput and 7% PDR as a higher. The experimental results have shown the performance of throughput, delay, PDR and energy with existing and proposed methods.

Keywords

Cluster Head, Energy Efficiency, Greedy Clustering, MGC2, WSN

Analysis of the Kalasan Feeders Quality Performance when New Big Customers are Connected to PT PLN (Persero) ULP Pangkalan Balai Electrical System

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Abstract

In 2022, it's planned that big customers will be connected to PLN ULP Pangkalan Balai electric system and this condition can increase revenue. But another condition is the feeder to supply new customers have bad performance. The feeder to supply new customers is the Kalasan feeder. Kalasan feeder has a voltage drop of more than 15%. To analyze how to repair the kalasan feeder was used with ETAP. ETAP is software for electrical power system load flow analysis that is used to simulate the actual condition. Based on the existing condition of the electrical system on the kalasan feeder, do simulations with ETAP. This simulation is carried out with various scenarios, including repairing with AVR, repairing with capacitors, repairing by uprating conductors, repairing by uprating distribution transformers, simulation with express feeder, simulation to the construction of a new substation, and connected solar power system to 20 kV grid. Based on the simulations of several scenarios, the best alternative is to connect the solar power system to a 20 kV grid. The result is a voltage drop decrease below 5%, a power factor of more than 95%, losses are smaller than before, and revenue increases.

Keywords

Voltage Drops, Grid Loss, Electric Power System Analysis, Solar Power Generation, 20 kV Feeder

Socio-Economic Benefits of Members of a Public Mutual Fund

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Abstract

This study determined the socio-economic benefits of a public mutual fund. It utilized a descriptive research design and a researcher-made questionnaire that covered 396 participants. A proportionate stratified-random sampling was used to determine the samples. The data collected were analyzed using frequency, percentage, mean, standard deviation, Mann-Whitney u test, and Kruskal-Wallis's test. The findings reveal that members of a public mutual fund experienced a great extent of social benefits in education, medical needs, health and wellness, home improvement, and housing. On the other hand, the social benefits in travel and vacation obtained a moderate extent. As to the economic benefits of a public mutual fund to its members, findings reveal that it greatly benefited household finances, savings, and payment of other loans. However, economic benefits in capital for small businesses revealed a moderate extent. Moreover, the findings show that a significant difference occurs in the type of loans availed in the level of social benefits. As a result, the public mutual fund's multi-purpose and housing loan programs have aided members in meeting their socio-economic needs.

Keywords

Socio-Economic Benefits, Public Mutual Fund, Members, Descriptive Research, Philippines

Effectiveness of e-Procurement Application Implementation to Realize Transparent and Efficient Procurement of Goods and Services at PLN (Persero)

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Abstract

PT. PLN (Persero) as one of the largest SOEs in Indonesia has been assigned by the Government to provide electricity infrastructure throughout the Republic of Indonesia. So to fulfill the mandate from the government, PLN requires policies that ensure the effectiveness and efficiency of the business process for the procurement of goods/services to run these electricity projects. PT. PLN (Persero) utilizes the e-procurement application intended to increase transparency, effectiveness, and efficiency in terms of time and cost in the process of procuring goods and services. This paper will analyze the implementation of the effectiveness of the e-procurement application at PT PLN (Persero) to realize a transparent, effective, and efficient tender process using the 6 independent variables of the ease of use, trust variables, reliability, the function of the interaction environment variables, content and information, and user satisfaction as well as privileges in assessing e-Government Quality. The method used in this study is a quantitative method with a purposive sampling survey approach with the criteria of respondents being users of e-procurement applications. Based on the results of the analysis of questionnaire tests, observations, and other supporting data, it can be concluded that the e-Procurement application has been significantly effective because it has fulfilled all the variables tested.

Keywords

PLN e-Procurement Application, Transparent, Efficiency, Reliability, User Satisfaction

Assessment of CNSC Labo Demographic profile and Disability Prevalence Rate

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Abstract

Assessing disability prevalence is essential for program development and providing intervention in the community. However, the lack of measures resulted in misaligned programs that can be utilized as the bases for crafting the necessary intervention and framework for the schools and community. Extant literature proved that there are still limited studies on the use of the Washington Group Short set of questions on Disability (WGSQ) in the local context. The present study addresses this concern by providing contextual findings relevant to the student's culture, orientation, and inclusivity. The present study also adopts this measure to assess students' profile and disability prevalence at the Camarines Norte State College-Labo campus. With this, the present study aimed to determine the demographic profile of CNSC Labo in terms of age, gender, civil status and enrolled students in the school curricular programs. Then, an assessment of the disability prevalence rate of CNSC Labo students was employed. Also, the present study provides an Inclusive education Framework that addresses emerging issues on students with functional limitations. This paper employed a Descriptive quantitative research design, specifically Survey or epidemiological research, to characterize the occurrence of behaviors. There are 110 students who participated in the survey. The data was encoded to Statistical Package for Social Science (SPSS) for data analysis. The present study used descriptive and frequency statistics for analysis and data interpretation. Assessing the functional limitations of students can provide the appropriate recommendations for program development for inclusive learners. The results revealed that students in CNSC Labo experience functional concerns such as seeing, hearing, mobility, remembering, self-care and communication. The emerging framework was proposed and can be adopted to assess students' baseline needs and used for planning interventions. This inclusive education framework explains that needs assessment is essential in determining the profile and disability prevalence of the students. Hence, the head of offices and institutions must review the policy and PPAs and monitor the implementation for inclusive education learners. Thus, the integration of inclusive education into the institutional framework will provide sufficient accounts and programs for PWDs, such as Mental health and well-being programs.

Keywords

Disability Prevalence, Demographic Profile, Inclusive Education Framework, College Students

Financial Model: A Practical Tool for Financial Management Practices of Micro-enterprises in Ifugao, Philippines

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Abstract

Micro-entrepreneurship can reduce poverty and creates employment opportunities. Many micro-enterprises started every year but fail in their infancy due to a lack of financial management knowledge. It aims to determine the respondents' profiles, business profiles, and the different areas of financial management practices. Descriptive survey was used with a sample survey questionnaire and follow-up personal interviews in gathering the data from 80 micro-entrepreneurs in Ifugao, Philippines. Most of the micro-entrepreneurs are female, aged 40-49, married, Tuwali, college graduate, owners, never attended training, and have technical field backgrounds. They engaged in trading and service, sole proprietors, started in early 2000, more than 10 years in existence, with an average of 4.31 employees, with beginning capital, total assets, annual sales, annual net profit, debt, and ending capital of less than 0.5 Million. Micro-enterprises highly practiced cash management and current liabilities management but slightly practiced fixed asset management. Cash management and fixed asset management significantly differ from all the other areas. Financial management practices significantly differ in age, position, type, form, start, length, full-time employees, beginning capital, asset, sales, profit, debt, and ending capital of the business. Studying financial management practices contributes in developing proposed financial model.

Keywords

Financial Model, Financial Management Practices, Micro-Enterprises, Ifugao

Change Detection Algorithm of 3D LiDAR Point Clouds Captured by Unmanned Aerial Systems

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Abstract

Three-dimensional LiDAR-Based Point cloud map (3D map) is widely used in varieties of application. In the inspection and survey applications, LiDAR equipment is attached to unmanned aerial system (UAS) for additional perspective of 3D map. Due to the plenteous information and details provided by 3D map, human could find it complicated when comparing between two 3D maps that collected with UAS at the exact location but different in time collected. This paper provides the details of the UAS and LiDAR setup to generate 3D point clouds. Moreover, the object detection algorithm is presented step by step for the obtained point clouds. The experimental results show that the proposed detection algorithm can differentiate the object with the dimension of 2x2x2 meter from two 3D maps successfully while the aircraft flying at the altitude up to 50 meters.

Keywords

LiDAR, Object Detection, Point Clouds, Three-Dimensional Map

TESOL Pre-Service Teacher's Perception towards Pedagogical Translanguaging in Language Education

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Abstract

English language teaching has moved towards a post-method paradigm where students' whole linguistic repertoire is valued as a linguistic resource for language practice, and not anymore seen as interference of students' L1. As the concept of translanguaging spread to teacher trainer education, research indicates that the field of TESOL is still bonded to the 'English-only' approach in ELT. This formative paper intends to explore perceptions of foreign English teachers in Thailand and their perceptions towards pedagogical translanguaging. 64 pre-service teachers in the TESOL program participated in the study. Quantitative and qualitative data was obtained by using an adapted survey from Moody, Chowdhury, and Eslami [21] and Mazak and Riveria [23]. Result shows that the use of translanguaging in class is neutral towards negative, most still holding on to the linguistic imperialism of English language teaching. However, qualitative data shows that pre-service teachers appear to view translanguaging not as a process of learning and teaching, but as a functional tool to raise students' attention, especially when teaching young emergent bilingual students.

Keywords

English Language Education, Perception, Teacher Training, Tesol, Pedagogical Translanguaging

Entrepreneurial Competencies and Business Performance of Millennial Entrepreneurs

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Abstract

The study aims to determine the millennial entrepreneurs' level of entrepreneurial competency in innovative and marketing, strategic, personal, and learning and analytical competencies, and the business performance in terms of percentage increase in annual sales, profit, and assets in a three-year trend. The research design of the study is descriptive-correlational. The participants are composed of 153 Department of Trade & Industry (DTI)-registered millennial entrepreneurs aging between 20-40 years old whose businesses are operating for at least last three years. The sampling technique used was convenience sampling. A researcher-made questionnaire was used which composed four parts. The overall entrepreneurial competencies indicated a total grand mean rating of 3.88, which is interpreted as highly competent. For the level of business performance, a gradual decrease is noted in service, merchandising, and manufacturing industries. The same trend is seen for the asset-size classification. Although the data present an increment increase on the line of business and asset size classifications, the trend falls on the lowest bracket. The results further show that there is no significant difference between entrepreneurial competencies and the participant's profile (p -values $> .05$) as well as between entrepreneurial competencies and the participant's business profile (p -value > 0.05). There is a positive but weak relationship between entrepreneurial competencies and business performance. The results further show that there is no significant difference between entrepreneurial competencies and the participant's profile as well as between entrepreneurial competencies and the participant's business profile. There is a positive but weak relationship between entrepreneurial competencies and business performance. In conclusion, DTI registered millennial entrepreneurs are highly competent in each indicator of entrepreneurial competences, increment increase can be noted on the lowest bracket of business performance. A workshop and seminar sessions with millennial business owners is suggested to address the weaker factors of entrepreneurial competencies to improve business performance.

Keywords

Bacolod City Philippines, Business Performance, Entrepreneurial Competencies, Micro Small And Medium Enterprise

A Simple Model to Estimate Carbon Stock Based on River Discharge: Supporting the Next Implementation of Redd+ in Indonesia Under Paris Agreement Regime

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Abstract

Land covers is the main determinant of river discharge rate of a watershed. The land cover, on the other hand, also contain the carbon stock accumulated above ground over watershed. This relation is very useful in carbon stock monitoring to support Paris Agreement implementation especially for tropical countries where the MRV activities are commonly very expensive. In this research the ordinary least square models were employed at significant level of 95%. First model was the river discharge, [YD], as the function of rainfall [RAIN] (mm/year) and the acreage of land covers area (ha) namely the forest [FREST], shrub [SRHB], plantation [PLNT], up land crop [UPLND], mix farming [MIXFM], and settlement [SETL]. The second model was to express the carbon stock [YC] (ton/ha) as the function of the [YD]. Data series of [RAIN], [YD] and lands covers of 2011, 2014, 2017 covering 3 watershed (Way Pengubuan, Way Bulok, and Way Besai) lies at Lampung Province, Republic of Indonesia. We employed Minitab 16 for parameter model estimation. The simple models achieved for river discharge was $[YD]_i = 13,612.00 + 0.1192[RAIN]_i - 238,00[FREST]_i - 129,08[SRHB]_i - 107.46[PLNT]_i - 184.16[SETL]_i - 131.08[UPLND]_i - 30.97[MIXFM]_i - 127.01[PADY]_i$ with $P=0.000$ and $R.Sq(adjt) = 96.6\%$; and the carbon stock expressed by $[Yc]_i = 17.2237 - 0.0212[YD]_i$ with $P=0.0006$ and the $Rsq(adjt) = 0.5283$.

Keywords

Land Cover, Carbon Stock, MRV, REDD+

Financial Literacy of the Select Micro and Small Enterprise Owners and Business Performance

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Abstract

This study aimed to determine the level of financial literacy of the select micro and small enterprise owners and business performance. This study utilized a descriptive-causal research design and selected 305 participants using proportionate stratified-random sampling technique. Frequency count, percentage, mean, standard deviation, Kruskal-Wallis, Chi-square, and Multiple Linear Regression are statistical tools used to analyze data collected. The results showed that micro and small enterprise owners have moderate extent of financial knowledge and financial behavior and high extent on the financial attitude. There was an increased change in business performance, as shown in three years of their business operation. It also concluded that educational attainment and business-related training attended were financial literacy determinants. Thus, financial knowledge ($p=0.624$) of the business owners did not predict business performance of the micro and small enterprises whereas their financial behavior ($p=0.040$) and financial attitude ($p=0.000$) predicted the business performance of their enterprises. Proposed action plan was then provided to improve the financial literacy of the entrepreneurs to further enhance business performance of their micro and small enterprises.

Keywords

Financial Literacy, Business Performance, Micro and Small Enterprise Owners, Descriptive-Causal Research, La Carlota City, Philippines

New Venture Creation – Measuring Role of Universities towards Successful Start-UPS

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Abstract

Purpose: This study presents facts and numbers about how universities in Saudi Arabia contribute to successful startups and the development of future entrepreneurs. The study focuses on the kingdom's entrepreneurship education system.

Design/Methodology/Approach: This study looks at a variety of academic works on university initiatives to support entrepreneurial initiatives in the kingdom. The critical examination study model and an explanatory research design were both used for the current study's statistical justification and discussion of findings about the effectiveness of the program. The main objective of this study is to support the outcomes of entrepreneurship in connection to the development of virtue in the context of founding a company. The research's conclusions show that Saudi institutions give students the skills they need to succeed as entrepreneurs.

Findings: We can draw the conclusion that Saudi University's entrepreneurship program is sufficient in preparing students to launch their own firms. Students are perceived to be competent and self-assured enough to launch their own businesses after completing their degrees.

Originality: The study will help to clarify the benefits of an entrepreneurship program for fledgling businesses. The report could be used by academics and businesspeople to comprehend the framework of Saudi Arabia's entrepreneurial push better. This study will be helpful to students who desire to start their own businesses.

Keywords

Start -ups, New Venture, Entrepreneurship, Entrepreneurship Education, Entrepreneurial Development, Enterprise, Saudi Arabia, University

Coastal Community Profiling and Environmental Assessment of Manila Bay Areas in Cavite City

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Abstract

Institutionalized Coastal Management or ICM is the modern way of accomplishing coastal management which lies on raising awareness on the importance of coastal management system. In the continuous rise of population and industrial development in Cavite City particularly in Manila Bay Areas, a participatory approach for coastal management is a key for sustainability. There were 449 coastal residents surveyed, coastal mapping and water quality standard testing was also conducted. Using multiple linear regression, results show that sex has moderate collective significant effects on perception while living situation, age, year of residency and educational attainment has strong significant effects on perception. Sex and living situation have strong significant effects on involvement, age has weak non-significant effects and residency, and educational attainment has moderate non-significant effects on involvement. Sex and living situation have weak non-significant effects on willingness, age has strong significant effects and residency, and educational attainment has moderate non-significant effects on their willingness to participate in coastal management. Sex, living situation and age has moderate non-significant effects to perceived coastal threat experience while residency has weak non-significant effects and educational attainment has strong collective significant effects. Sex and living situation have strong collective significant effects on perceived factors of degradation while age has weak collective non-significant effects; residency and educational attainment has moderate collective non-significant effects.

The water quality test passed the results on dissolved oxygen, conductivity, salinity, resistance, total dissolved solids, ORP and physico-chemical but failed on standard ph., Temperature, and microbiological results particularly the fecal coliform and E. Coli. Cavite City should seriously consider replanning for coastal management.

Keywords

Coastal Community Profiling, Coastal Management, Coastal Mapping, Environmental Assessment and Water Quality



The Impact of Leadership Style and Organization Culture on Employee Readiness to Change with Mediating Role of Employee Commitment to Energy Management: An Empirical Study on Petrochemical Sector in Egypt

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Abstract

This research investigates the leadership style and organization culture on employee readiness to change with mediating role of employee commitment to energy management in petrochemical sector in Egypt. The objectives of this research are: to recognize the effect of leaderships style on employees' commitment to energy management; to identify the effect of the organization culture on employees' commitment to energy management; to assess the effect of employees' commitment to energy management on their readiness to change, using structural equation modeling. The research uses a quantitative approach; an administrated questionnaire is used to gather the required data to test the developed hypotheses, analyzing the data through structural equation model (SEM) using AMOS software version 25. Results of this study show: there is a significant direct effect between leadership style and employee readiness to change; there is a significant direct effect between organizational culture and employee readiness to change; there is a significant direct effect between leadership style and employee commitment to energy management; there is a significant direct effect between organizational culture and employee commitment to energy; there is a significant direct effect between employee commitment to energy management and employee readiness to change. The study found that the results of the mediation effect indicate that there is partial mediation effect of the employee commitment to energy management between the relationship of leadership style, organizational culture and employee readiness to change.

Keywords

Culture, Energy Commitment, Leadership, Petrochemical Sector, Readiness To Change

Individuals with Autism Spectrum Disorders in Jordan: An Overview of the Literature

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Abstract

ASD is a lifelong neurodevelopmental disorder characterized by persistent impairments in social communication interactions (SCI) and restricted and repetitive behaviors or interests (RRBI), with a continuous prevalence rise globally. The Arab Nations consists of 22 member nations with numerous articles published on ASD. Jordan is one of the most notable Arab countries in the research field of ASD. This review aimed to locate and combine all Jordanian articles published on ASD in Jordan in the last five years and analyze them to shed light on the limitations and challenges of ASD research in Arab nations. Researchers in Jordan have published 17 articles in the last five years involving a total Jordanian sample of 2115 individuals, investigating various issues such as knowledge, etiology, therapy, and diagnosis tools. Consequence recommendations from this review suggest that Arabic scholars must collaborate to bridge the gap in research, particularly on the diagnosis of ASD, screening, prevalence, awareness, early detection, early intervention, and treatment. They recommend that centers follow the scientific-based guidelines to diagnose and manage the quality of service for ASD, increase their capacity to accept more children in their programs, and highlight the inclusion of ASD in educational streams.

Keywords

Autism Spectrum Disorder (ASD), Arab Nations, Jordan

Financial Audit: Key Audit Issues and COVID-19

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Abstract

In the international arena, the world experienced the pandemic called COVID -19, causing cross-border closures between countries and cessation of commercial operations, affecting companies, for which the International Accounting Standards Board (IASB) took the necessary measures to issue the guidelines in the presentation of the financial statements against the panorama, the auditors met in this health emergency process challenges in the work in the execution of the assignments in accordance with the International Auditing Standards, to issue the reports. The study addresses the role played by auditors and the challenges of the profession. The research was developed through a study of phenomenology.

Keywords

Audit, Audit Report, Key Issues, Report

MAM+: An Approach to Securing Mobile Devices in a Mobile Enterprise

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Abstract

With the growth of mobile use in the workplace, enterprises need a dynamic and flexible security framework to balance risk and trust. This need has led to the expansion and rapid growth of enterprise security technologies for mobility. However, the enterprise must know in which technologies to invest. It also needs to know whether to rely on one technology, a combination of technologies or take a unified approach. MDM (Mobile Device Management) and MAM (Mobile Application Management) represent the best-known existing applications in this field. In this article, we analyze these two most used mobile ecosystem management tools from a security point of view. In addition, we propose a new approach that strengthens the security part of MAM application. The proposed mechanism is based on a set of artifacts and mobile agents. On the basis of the characteristics of proposed approach security activities, a functional diagram is presented.

Keywords

Security, Mobile Enterprise, Mobile Security, Mobile Application Management, Artifact, Mobile Agent

Conduct of Tracer Studies for Quality Assurance Mechanisms: A Basis for Curriculum Enhancement

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Abstract

The Higher Education Institutions (HEIs) share the common goal of producing highly principled and globally competent individuals to meet the needs of the industry. Through this, HEIs are mandated by the Commission on Higher Education (CHED) to conduct tracer studies periodically to monitor the employability or success of their graduates which aims to ensure the quality assurance of an institution. This study focused on designing a framework on as to how graduate tracer studies can be useful in the curriculum enhancement of degree programs for quality assurance that may encourage other institutions to use the same. Systematic literature review was utilized as the main method of the study. The researcher reviewed and analyzed twenty (20) published related literatures and studies to answer the objective with factual and/or research-based pieces of evidence. The framework design sought to help not only the Pangasinan State University (PSU) but also other institutions in providing support in the process of accreditation, improving the performance, service and quality of education in the different degree programs. Thus, implementing the framework model can certainly help sustain the UN Development Goal No.8 on decent work and economic growth likewise usable in ensuring the quality of education.

Keywords

Tracer Studies, Quality Assurance, Curriculum Enhancement, Framework Design

E-Commerce Adoption Towards Sustainable Bamboo Industry in the City of Alaminos, Philippines

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Abstract

With the economic progress, Alaminos drives to another venture to make the city into the bamboo capital of Pangasinan through its Hundred Islands Engineered-Kawayan (E-Kawayan) Factory that produces bamboo products while encouraging massive cultivation of the plant. This study would present business model for an eCommerce platform that would transform the factory souvenir shop into digital store as any business needs to be competitive and cope up with the technology helping it to survive in the market and as part of the tourism program of Alaminos City. Literature reviews was used to support the development of digital store for Hundred Islands E-Kawayan Factory and aid the researcher in designing its business model. In addition, interviews and document analysis were conducted to understand the business process of the factory. As the tourism industry and business establishments embraces technology, digital platform that would reach wider target market will be highly beneficial to the city. Moreover, the development of the digital store will help support the project of the city in sustaining livelihood of the bamboo planter.

Keywords

E-Commerce, Sustainable, Bamboo Industry, Bamboo Products

Knowledge Management Initiative for Organizing and Sharing Institutional Learning Resources in Higher Education

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Abstract

Higher education institutions create, share, and apply knowledge during the teaching and learning processes and activities. Learner-centered knowledge are created by faculty members and shared among students. The adoption of web-based learning management systems and other online technologies facilitates online learning and instruction, primarily since the home-based learning modality was enforced. Digital learning materials are produced and accumulated to intensify the delivery of topics to students in which various online applications are used to store, share, and circulate them to students. However, these tools focus on managing learning activities and circulating digital educational resources and do not support the management of knowledge in an institution. Knowledge management involves the creation, storage, acquisition, and transfer of an institution's explicit and tacit knowledge. This paper has explored accomplished works and literature to support the creation of a framework for a Knowledge Management System that integrates functionalities and services appropriate to the organization and sharing of the institution's learner-centered knowledge. Within this context, this study proposes a framework for a knowledge management system and identifies appropriate features that address the need for knowledge management, which may help accelerate and improve the teaching and learning processes of the institution. The implementation of the framework intends to enhance the creation, storage, and sharing institution's learner-centered knowledge that may be useful in decision-making activities hence promoting and strengthening knowledge creation and sharing culture.

Keywords

Knowledge Management, Knowledge Repository, Knowledge Services, Learning Resources

Unfolding the Lived Experiences of Students in Thesis Writing

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Abstract

Writing the research document in the form of thesis is considered as the most challenging among the students. Keeping this view of mind, the present study was conducted to explore the struggles and coping mechanisms by the students in thesis writing. There were 15 conveniently and purposely selected participants in this study from the 8 colleges in Quirino State University, Cabarroguis Campus. The researcher used interview as a tool to collect data which included open ended questions. The result revealed that the participants have different experiences in thesis writing. The struggles that they have encountered in their thesis writing include lack of knowledge in research writing, lack of guidance from instructors, emotional and psychological problems, financial problems, and slow internet connectivity. Despite the struggles they encountered, they employed coping strategies to succeed in their thesis writing. These include self-motivation, seeking support from others, and proper time management. Proper dissemination of the result of the study and presentation of the proposed intervention program could be done to address the struggles of students in thesis writing.

Keywords

Research Documents, Research Writing, Thesis Writing, Students

Internal Control and Forensic Auditing in Public Entities

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Abstract

This scientific article investigates the need to implement forensic auditing as a tool that allows the internal control departments of public entities in Colombia, so that they can perform preventive risk control, monitoring and detection of fraud and corruption risk situation, since the country has originated corruption scandals, for this a methodology with a qualitative approach was developed, of an interpretive and descriptive nature, in which an analysis of the surveys conducted to the internal control departments of public entities was made, a random sample of a total population of 80 was made, 40 public entities in the city of Medellin were surveyed, to determine the control mechanisms that are in place to mitigate fraud within the facilities of the entities and determine the current status of the issue raised, The results of the investigation determined that there are no policies and procedures to prevent fraud, therefore it is proposed to the government entities that it is necessary that the officials of the internal control department have the necessary knowledge and skills in the area of forensic auditing and in their work schedule for the current periods the execution of specific audits in this area and the implementation of preventive controls, which will ensure the public finances. therefore it is proposed to the government entities that it is necessary that the officials of the internal control department have the necessary knowledge and skills in the area of forensic auditing and in their work schedule for the current periods the execution of specific audits in this area and the implementation of preventive controls, which will ensure the public finances. therefore it is proposed to the government entities that it is necessary that the officials of the internal control department have the necessary knowledge and skills in the area of forensic auditing and in their work schedule for the current periods the execution of specific audits in this area and the implementation of preventive controls, which will ensure the public finances.

Keywords

Forensic Auditing, Internal Control, Public Entities, Risks, Audit, Internal Control, Auditing

Amino Acid Profile and Biological Value of Aqueous Seed Extract of *Cucumis melo* Linn Curcubitaceae

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Abstract

Background: Malnutrition is one of the most pressing challenges for developing countries. Cucurbitaceae are known for their nutritive and medicinal values. The objective of this study is to evaluate the amino acids for the need to develop varieties of protein-rich plant products for use as nutritional supplements.

Methods: *Cucumis melo* seeds were purchased washed, dried, and milled into flour, Defatted seed flour and protein precipitate were prepared using standard methods by AOAC (2006), and loaded into the Applied Biosystems PTH Amino Acid Analyzer to determine the amino acids contents

Results: The amino acid profile of *C. melo* seed flour is comparable to that of egg, fish, and beef but have higher contents of arginine, glutamic acid, aspartic acid, methionine, and histidine. The protein efficiency ratio calculated ranged from 2.32 through 4.13 indicating high-quality protein. The total essential ranges from 41.39-52.7 % and amino acid scores were from 102% to 575% values compared to whole egg. The defatted sample (POP) had lower amino acid contents compared to the whole flour (HW) and the protein precipitate (PP) however, POP had significantly ($p < 0.05$) higher glutamic acid content.

Conclusion: There is the potential of developing nutraceuticals and meat analogs with the whole seed flour of *Cucumis melo*.

Keywords

Cucumis Melo, Amino Acids, Supplements, Protein Biological Value

To Satisfy or Not to Satisfy the Customer: A Machine Learning Perspective

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Abstract

CRM systems have been popular as they enable organizations manage their relationship with their customers and the relevant business processes more effectively. This study focuses on developing an efficient way to manage customers' needs and complaints using machine learning techniques. We adapted two topic modelling techniques, LDA and GSDMM, to find out the main themes mentioned by customers with negative sentiment. LDA and GSDMM were used in a complementary way considering major limitations and advantages of the both technique. Using LDA, four topics emerged from the data. GSDMM algorithm was used to analyze the data using the same number of topics. The results showed that the most commonly topic discussed by the customers were "unsubscribe" and "login" in our case. Organizations using the same method can gather further information from the analysis and also customers to find out a solution to their current problem. Combining machine learning techniques like in this study can help organizations to realize the problems and develop solutions simultaneously when these analysis are integrated into their system.

Keywords

Customer Satisfaction, Call Center, Machine Learning, Topic Modeling, LDA, GSDMM, Bert

Unveiling the Lived Experiences of Rebel Returnees: A Phenomenological Study

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Abstract

The government offers aftercare programs for rebel returnees by providing numerous works, livelihood, and education as part of the reintegration process. The government spearheaded attempts to reach this group to halt armed conflict or convince them to surrender (Martinez, 2018). This study anchored on the social control theory of Travis Hirschi, Sigmund Freud's psychoanalytic theory of personality, and the theory of Motivation by Abraham Maslow. This study utilizes a qualitative phenomenological approach to describe lived experience of rebel returnees. This study conducted at New Bataan, Davao de Oro, uses a snowball sampling technique to identify the eight (8) rebel returnees. The study has drawn themes of Life Struggle, Effective Government Peace Agreement, Recruitment Process, Taste of Freedom, Value for Education, and Long- Lived Family. The rebel returnees never failed to make a wiser decision for good. They have realized essential lessons based on their experiences that could be a treasure for the rest of their lives. The government has never deprived them of the right to life and be free, yet, they are all provided with different offers from the government to start a new life. Furthermore, it is recommended to research further about the experiences of rebel returnees to get extensive answers and experiences. It is also recommended to bring their comprehensive learning insights after those experiences.

Keywords

Lived Experiences, Rebel Returnees, Phenomenological Design, Philippines

Eligibility of Green City Attributes and Indicators for Medium-Scale Cities to Achieving Sustainable Cities: Case in Indonesia

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Abstract

The sustainable development agenda is targeted to be realized in 2030. This agenda forces governments, including cities in the world, to be able to achieve this. Green city as an approach to assessing the principles of sustainable city development. Previous studies have mostly reviewed the performance of green cities in big cities and metropolitan cities, the results are rather difficult to meet the principles of sustainability. This study takes cases in medium-sized cities, namely Kendari City and Baubau City. The purpose of this study is to offer the attributes of a green city and its indicators that are appropriate/appropriate for a medium city. Green city index used is AGCI. This study uses a mixed method design with sequential mixed methods with the PROMETHEE software analysis tool with a Qualitative Comparative Analysis (QSA) analysis approach. The results of the analysis show that only four out of eight met the AGCI standards, namely: land use and buildings, waste, air quality, and environmental governance.

Keywords

Eligibility, Green City, Medium City

Model of Tourism Development Strategy Post Covid-19 Pandemic in Lake Toba Area, North Sumatra, Indonesia

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Abstract

This study aims to find strategies in developing tourism, especially in 7 districts around Lake Toba, North Sumatra, Indonesia after the Covid-19 pandemic. This research was conducted because Lake Toba as one of the largest volcanic lakes in the world is currently the focus of the Indonesian government to be developed as a world-class tourism destination. This study uses the theory of the basic components of tourism which consist of objects and tourist attractions, accommodation, transportation/tourism transportation, tourism facilities and facilities and tourism infrastructure (promotion, marketing and policy). This study uses IFAS EFAS analysis and SWOT analysis in analyzing existing internal and external factors. Researchers used data collection techniques in the form of interviews, documentation and observation. Based on the results of the calculation analysis, it is known that the Strengths value is higher than the Weaknesses value with a difference of (+)0.155 and the Opportunity value is above the Threat value with a difference of (+)0.903. Based on the SWOT diagram, it can be seen that the strategy that must be applied to develop the competitiveness of tourist destinations in the Lake Toba area is to support the strategy in quadrant I, namely the growth strategy (Growth).

Keywords

Lake Toba, Tourism, Development, Strategy



Comparative Study: COVID-19 Vaccine Hesitancy among Filipinos Aged 18-59 in Selected Areas Inside and Outside of National Capital Region

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Abstract

Vaccine hesitancy has been a growing challenge for the medical field long before the COVID-19 pandemic. Unfortunately, with the rampant growth of misinformation and disinformation online, the number of vaccine-hesitant people has become higher. So much so that some individuals have opted to persuade others not to take vaccine shots and go so far as to distribute false claims and information. Some of the reasons people choose not to get vaccinated are concerned about side effects, long-term health impacts, and lack of trust in vaccines. This phenomenon, vaccine hesitancy, in our country is alarming. Despite the Philippines ranking among the highest in Southeast Asia for COVID-19 cases, the majority of our population is still scared to get vaccinated inside and outside the National Capital Region (NCR). To overcome this, healthcare providers and vaccinated individuals must cultivate the appropriate attitudes by reinforcing their impressions toward immunization. This study, in particular, aims to investigate the reason behind vaccine hesitancy among Filipinos aged 18-59. It also aims to find out and compare how different the concerns and bases are for Filipinos in areas encompassing inside and outside of NCR. To test the hypotheses about the significant differences in the level of knowledge, attitude, and perception of adults classified into age groups, household income, and educational attainment, as well as the significant relationship between the demographic profile of the respondents, the level of knowledge, attitude, and perception on vaccine hesitancy, the researchers used the snowball method to distribute an online survey to residents of Catbalogan City, Kalinga, Pulilan, Quezon City, Santiago City, Tarlac City, and Valenzuela City aged 18-59. The researchers will be using the analytical cross-sectional design as their method to gain necessary data. The data collected will help assess the various factors influencing the population's awareness and acceptance of vaccination and identify possible patterns and frequencies. The data acquired will also allow the researchers to identify any addressable concerns regarding vaccine hesitancy. The research also aims to know the different factors affecting the hesitancy individuals have towards vaccines and if there is a significant difference between the responses when the demographic profile comes into play as a factor. The study showed that the majority of the participants believed that immunization effectively prevents and controls COVID-19 and would not hesitate to be immunized. It also showed that there was no significant difference in vaccine hesitancy, knowledge and attitude about COVID-19 immunization among those living within NCR and outside NCR. In fine, the factors that have shown to affect vaccine hesitancy are the pharmaceutical industry's name and reputation, seriousness of vaccine-preventable disease, importance of vaccination of everyone, newly developed vaccines, and acquiring of other people.

Keywords

COVID-19 Vaccine, Vaccine Hesitancy, Effectiveness, Immunization, Knowledge, Attitude, National Capital Region, Philippines

Adapting Students' Learning to the E-learning Environment: A Case Study of the Faculty of Letters and Human Sciences Dhar El Mahraz Fez

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Abstract

Since the development of the internet and distance communication, Computer Environments for Human Learning (CEHL) have shown significant development. The main purpose of CEHL is to promote learning by creating educational situations. However, CEHL systems have never been perfect. They constantly require adjustments due to rapid technological change. Therefore, CEHL faces several challenges, such as adapting learning resources to each learning situation, valorizing learning data, and handling large quantities of learners' interactions with the e-learning system in real time. Our study is situated within the context of the research activities in the CEHL field and its role in the integration of new information and communication technologies (ICT) in distance higher education. Our task will be focused on the study of a real case of CEHL in our faculty, the Faculty of Letters and Human Sciences, led by Dhar El Mahraz Fez. Our interest will be concentrated on the question of how CEHLs can be combined with classical studies approaches in the university environment and how they can be adjusted to meet the evolving needs and choices of students, taking into consideration the dimensions of availability and quality of the learning service.

Keywords

Computer Environments for Human Learning (CEHL), E-Learning system, Information and Communication Technologies (ICT)

Microbiological Water Quality Close to the Stormwater Outfalls in Recreational Beaches of Kuwait Bay

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Abstract

Kuwait Bay's southern shore is home to several facilities used for various purposes, impacting the beaches' ecosystems and coastal environment. Furthermore, the presence of numerous stormwater outfalls on Kuwait Bay's southern shores may be one of the sources of pollutants that are discharged from these outfalls. This research aims to evaluate the microbiological quality of seawater near 5 selected stormwater outfalls located on Kuwait Bay's recreational water by measuring the levels of microbial bacteria such as *fecal coliform* (FC), and *Escherichia Coli* (E. Coli), and *fecal streptococci* (FS), and water quality parameters including Temperature, pH, Electrical Conductivity (EC) and Dissolved Oxygen (DO). The analytical results were compared with Kuwait Environmental Public Authority (EPA) requirements for water discharge to Kuwait Bay to assess the suitability of the beaches for recreational activities. The field results revealed the presence of mildly alkaline seawater samples, a range of fresh to saline water types, and various DO levels from very low to acceptable levels. noteworthy, the microbial indicators were extremely high and far beyond EPA guidelines, demonstrating extensive microbiological pollution at these locations. The mean FC/FS ratios of C18 had the greatest mean FC/FS ratio (16.75), signifying human contamination. C3 and C5 indicated human waste in mixed pollution with averages of (3.45 and 2.34 respectively), whereas C8 and C10 showed human contamination with average values (of 5.98, and 4.21 respectively). It is suggested that the seawater quality close to wastewater outfalls be frequently evaluated and treated using efficient onsite treatment technologies to decrease the amount of polluted wastewater discharged directly to the beaches.

Keywords

Water quality, Microbial, Fecal Coliform, *E Coli*, *Fecal Streptococci*

A Novel Approach on Lung Cancer Prediction using Enhanced PCA with Smote

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Abstract

The performance of the classification models are highly degraded on large dataset with high dimension. The high dimensional dataset has both relevant as well as irrelevant features results in performance degradation of the classification model. Moreover, more number of datasets is imbalanced in nature. The imbalanced data also poses hindrance for the classification models. The imbalanced dataset leads classification performance bias towards the majority class. In this work, PCA with smote is applied to derive an effective subset of lung dataset. The PCA reduces the dimensionality of the dataset into lower dimension. The SMOTE is the technique that creates synthetic samples on the dataset. PCA eliminates the irrelevant features from the dataset and SMOTE creates new synthetic samples to increase the number of representative samples in minority class. Finally, SVM classifier is applied on the pre-processed dataset as well as performance of the model is compared using evaluation metrics. The experimental results proved the effectiveness of the proposed methodology in terms of accuracy, precision, recall, false positive rate.

Keywords

PCA, SMOTE, SVM, Synthetic Sampling

Using Lean Six Sigma and Artificial Intelligence for Improving Medical Support during Maternity

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Abstract

During pregnancy, women are often confronted with health problems that require follow-up or even medical treatment to reduce the risk of malformations that can lead to the loss of the baby and/or the mother.

According to the WHO, 2.8 million pregnant women and newborns die each year, one every 11 seconds, mostly from preventable causes. In 2017, 290 000 women died during or after pregnancy. [1]

With the emergence of COVID 19, the danger of a severe course of this virus with an increased risk of intensive care admission, intubation, and mortality is significantly higher in pregnant women than in non-pregnant women of the identical age.

When it's the first pregnancy, the lady worries at the slightest sign that seems abnormal, so she goes to her midwife or gynecologist, but within the case that the appointment is complicated to make, she goes to the ER, except that this will increase the workload of the emergency room, therefore, increase the waiting time which will be dramatic in some cases.

To overcome these difficulties, this work aims to measure the maternity in serenity with more comfort and support from health professionals through a decision-making tool that adapts to the state of each woman.

For this, the trail taken from the announcement of the pregnancy to the postpartum period is modeled with BMNP. Then the model will be analyzed to identify areas for improvement.

Finally, a simulation is going to be established to visualize the course of follow-up during the pregnancy and the set of interactions between the parturient and the medical staff which will simplify the decision making and intervene efficiently in case of complication while integrating the choices and the desires of the parturient.

Keywords

Artificial Intelligence, Business Intelligence, Business Process Model and Notation, Decision Making, Lean Six Sigma, Maternity, Process Simulation

Contemplative Architecture and Human Experience: An Exploration

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Abstract

It has become crucial to live in serene and soothing environments if you want to be healthy and tranquil. Contemplation areas can also guide the architecture to higher spiritual planes. It is possible to characterize the present era as turbulent, uncertain, and changeable. Technical breakthroughs and a desire for sustainability go hand in hand with rapid urbanization and excessive intensification. Traditional architecture frequently had a specific function in mind when it was designed, and future users, uses, or environmental changes were rarely considered. At present, however, it is asserted that the need for construction tractability is critical because of difficulties with affordability, resource depletion, fluctuating demographics, and climate alteration. It is understood that architecture of the twenty-first century needs to be correspondingly flexible and adaptable for a number of reasons, the most crucial of which being the user's mental and spiritual well-being. Our architecture should be made to be disassembled, reconstructed, and reused in order to create contemplative spaces rather than deconstructing buildings to fill landfills. There are several ways that architecture can create these places. Extensive literature reviews in the areas of architecture and spirituality led to the current study. The goal of this study is to examine how living in a healthy environment might be influenced by its physical surrounds and built environment. By offering a place where people are free to ponder or deliberate and feel the existent moment, different environments can be built that help the user feel more connected to them.

Keywords

Contemplative Architecture, Flow, Human Experience, Mental Health, Spiritual Architecture

Building a Blockchain-based Renewable Energy Trading Model for Clean Community

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Abstract

Renewable energy plays an important role in reshaping the future of the energy industry. The underlying backbone of the energy sector's transactional infrastructure is now blockchain technology. This study aims to design the architecture of the blockchain-based renewable energy trading model that enables the community to exchange renewable energy to achieve both personal and community energy goals. It was developed using the Design Thinking phase in the Hybrid DSL methodology, an iterative approach to conceptualize the project and identify the hardware needed to integrate blockchain technology. The project is built on blockchain's most important advantages, which include a sense of transparency, advanced security, and genuine traceability, as well as improved performance, efficiency, and automation, resulting in lower energy costs. Utilizing the architecture provides a holistic solution to the underlying problem of most energy consumers.

Keywords

Blockchain Technology, Clean Community, Renewable Energy, Systems Model

Retail Business Model in Helping MSME (Micro Small Medium Enterprise) Business Continuity in Medan City after the Covid-19 Pandemic

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Abstract

Before the Covid-19 pandemic hit countries in the world including Indonesia starting in early 2020, Medan City, as the third largest city in Indonesia, had a fairly rapid development of retail business. The formulation of the problem in this research is how to determine the model of business cooperation between the modern retail market and MSME (Micro Small Medium Enterprise) in Medan after the Covid-19 pandemic. The research was conducted by conducting in-depth interviews, SWOT analysis, and Forum Group Discussion. The research was conducted using qualitative methods. Furthermore, the results were discussed in 2 stages of FGD so that results were obtained on how modern market retail businesses can play a role in the sustainability of MSMEs in Medan City after the Covid-19 pandemic. This study resulted in several strategies including, a strategy for developing the potential of MSME processed products, human resource development strategies, institutional development strategies, regional regulations, and information technology introduction strategies. It is hoped that the implementation of some of the strategies mentioned above can help SMEs processed products in Medan to be marketed in the modern retail market in Medan city.

Keywords

MSME, Retail, Business, Continuity

Development and Validation of an Automated Electronic Controller (AELC) for Electric Generator Assembly

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Abstract

Electric generators are machines that provide electricity specially during power interruptions or when electric power is not yet available in the area. Although it is always claimed by manufacturing companies of electric generators that the system produces a stable electric outputs, fluctuations of electricity arise due to variation on the load the generator carries that causes the damage to appliances or facilities. This study focused on solving this problem by designing and fabricating an automatic electric load controller (AELC) that can help in producing a stable voltage and frequency generated that can be used not only in farms but also at home and other establishments without damaging the facilities loaded. Proportional integral derivative (PID) was also included in the program. This study also simulated the use of the AELC for a microhydro electric generators by using an assembled 3KVA electric generator without mechanical governor. The developed AELC was tested using a fabricated electric generator and was found to be efficient in terms of the maintained RPM of 1800/60 Hz and voltage of 220 volts.

Keywords

ELC, electric generator, micro hydro, Arduino Microcontroller, PID

Intelligent System Based On Genetic Algorithms. Case: Vehicular Traffic Control. Perú

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Abstract

This project seeks to provide a possible solution to the problem of vehicular traffic in the city of Huanuco. Taking advantage of the infrastructure of traffic lights, streets, alleys, avenues and other routes for this work will focus on the search for alternate routes thus avoiding vehicular traffic or saturation of traffic routes for an adequate traffic flow.

The behavior of the traffic flow in the exits and entrances to the city will be experimented and a genetic algorithm will be proposed for the search of routes taking into account the time schedules and reports, as well as the use of Google Maps so that it contributes to reduce the time lost in traffic.

Keywords

Genetic Algorithm, Vehicular Traffic, Intelligent System

An Overview on Application of Wireless Sensor Networks For Traffic Management And Vehicle Parking

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Abstract

As vehicles are increasing all around the world with this vehicular traffic also increasing. Solutions at present for traffic management are not sufficient. There are already so many researches based on Wireless sensor networks(WSN) to solve the traffic problems. Our research is based on Traffic management, vehicle parking, real time accidental information using distance measuring sensor. Due to all these we can reduce the traffic congestion, reduction in emissions of harmful gases and usage of fuel efficiency increased. In our research Vehicle parking in congested area can be solve using WSN and a network bridge between parking area and vehicle.

Keywords

WSN (Wireless Sensor Networks)

Factors Influencing Consumers' Purchase Intention towards Online Grocery Shopping during Covid-19 Pandemic

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Abstract

This study aims to determine the elements that affect customers' decision to shop for groceries online in Malaysia during the COVID-19 pandemic. The main focus of this study is the interaction between the independent variables (hedonistic motivation, perceived risk, social influence, price, and value) and the dependent variable (consumers' intention to make an online purchase). The research used survey questionnaires to gather data, and the random sampling technique was used to provide each possible respondent a chance to be included in the sample. The data were analysed using multiple regression, descriptive analysis, reliability analysis, Pearson correlation, and reliability analysis.

Keywords

Pandemic, COVID-19, e-grocery, Hedonic and Perceived Risk

Spotting Exit Assessment of the Graduating Batch'15 on ZSCMST's Quality Education: Implications of Accreditation Standards

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Abstract

This simple study is an offshoot of the implications of accreditation standards to the graduates which aimed at answering the following queries: *1. What is the perceived ZSCMST quality education attuned to its VGMO (Vision, Mission, Goals and Objectives) according to the graduating students when their demographic profile is considered?; 2. Is there a significant difference in the perceptions of the graduating students on ZSCMST quality education based on their demographic profile? What are the implications of accreditation standards based on the findings?* In this study, the researcher has advanced only one hypothesis: There is no significant difference in the perceptions of the graduating students based on their demographic profile. The study employed a qualitative descriptive approach, by which the outcomes of the responses made by the 165-graduating batch'15 respondents were supported with literature reviews and related studies extensively discussed. The survey questionnaire is composed of two parts (used also in the informal interview): Part I dealt with the demographic profile of the student concentrating on gender, college affiliation and economic status. However, part II focused on perceptions of graduating batch '15 on ZSCMST's (Zamboanga State College of Marine Sciences and Technology) quality education relative to accreditation which is composed of ten items of varying multiple-choice type, identifying if there is significant difference in the respondents' perceptions.

Based on the findings and in the same order with the stated problems sought to be resolved by the study, the researcher concludes the following: *Q1. Of the 165 graduating students*, according to gender and college affiliation, there were 46 males from CME while 58 females from CELA dominating the group. Again, 52 females belonged to the average family income and 43 males as to socio-economic status; *Q2. The perceived ZSCMST quality education of the Graduating Batch'15 yielded the following expressions on the ten items:* 1. They were very satisfied and productive on their four year stay in ZSCMST; 2. The ZSCMST administration were very responsive on their personal feelings and experience; 3. ZSCMST was rated somewhat quick in responding to their problems on customer service; 4. Most of the issues have been resolved by ZSCMST personnel or customer service representatives; 5. They believed that ZSCMST gave quality service as an ISO/CHED /AACCUP certified to an average extent ;6. Their respective experiential learning improved and prepared them to be their best quite a bit better; 7. As an overall impressions of teachers, they believed that they taught what the graduating batch'15 have expected very well; 8. When it comes to the performance of the teaching and non-teaching personnel after students' feedback evaluation, the students expressed that they have much improved; 9. The students were very much satisfied as an overall, assessment of the ZSCMST service education and finally, 10. Yes, the graduating batch'15 would proudly recommend or suggest anyone to study or work with ZSCMST

Q3. There is no significant difference in the perceived ZSCMST Quality education according to the graduating batch'15 based on demographic profile. Lastly,

Q4. the implications of Accreditation(AACCCUP, CHED-MARINA and ISO) Standards to ZSCMST Graduates in this research are the following: a) Institutional prestige and recognition; b) Continual Service Delivery Satisfaction;c) Enhanced Curricular Offerings Matched with Industry's Needs; d) Strengthened and growth of learning resources and facilities; e) Faculty's Improved Job performance and awareness on Students' Improved Academic Performance; and g) International Benchmarking Rise Up

The following recommendations were noted positively: 1. Increase the number of respondents and study must be region wide adapting the modified survey questionnaire on the perceived quality education of SUCs and PHEIs; 2. Determine also if there is any relationship between academic performance as success stories of graduates' employability indicator and educational excellence.3. Add more predicting variables affecting the hindrance of quality education in selected SUCs and PHEIs in region 9, then do comparisons.

Keywords

WSN (Wireless Sensor Networks)

A glimpse of GS Professionalism at ZSCMST: An Exit Assessment Needs Analysis

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Abstract

Using mixed method (qualitative-quantitative design) this study demonstrated the importance of exit assessment needs analysis and justifies how significant ZSCMST's quality education is for career path as essence of professionalism. The survey tool is composed of: Part I focused on the graduate professionals' demographic profile, specifically their gender, program affiliation, and socioeconomic status; Part II focused on perceptions of Graduate School of professionals on ZSCMST's quality education in relation to accreditation as An exit needs analysis. The following were queries: 1. What is the demographic profile of the graduate professionals when categorized as gender, program affiliations, and socio-economic status?; 2.What is the perceived ZSCMST quality of education attuned to its VGMO according to graduate professionals when their demographic profile is considered?; 3.Is there a significant difference in the perceptions of the graduate professionals on ZSMST quality education as exit assessment needs analysis for offering a new program? 4. What are the implications of this exit assessment needs analysis for the ZSCMST Graduate School?

The following conclusions were :The perceived exit assessment as need analysis on ZSCMST quality education as articulated by the Graduate professionals generated the following expressions on the ten items stipulated in the survey questionnaire: For problem 1, Out of 110 graduate professionals and others from external clients, the data based on gender and program affiliation revealed that of 110 graduate professionals and others from external clients, MPM dominated by females.72 came from a typical family with a female predominance. However, 25 belonged to a wealthy family, and 13 came from low-income families, most men.

For problem 2, based on the ten item-questions were: 1. They were very satisfied and productive during their years of stay at ZSCMST; 2. The ZSCMST administration was very responsive to their personal feelings and experiences; 3. The ZSCMST Graduate School's customer service in response to problem encountered by Graduate professionals was very responsive. 4. Most of the issues have been resolved by ZSCMST personnel or customer service representatives; 5.They believe that experiential learning in the graduate school improved and prepared them to be their best to an average extent as an ISO/ CHED/Marina / AACUP certified institution; 6. Their overall impressions of their graduate professors revealed that they were taught what is expected of them very well; 7. Most of them were very much satisfied with the overall quality education provided by ZSCMST Graduate school; 8. Most of them has a anonymous reply of YES when asked if they are willing to pursue a doctoral program if one becomes available in the future.9.They fervently believed that getting a doctoral degree is very significant because it will enhance their professional career someday; and lastly, 10. They replied YES, and promised to invite, encourage and recommend the doctoral program to their family, relatives and friends.

For problem 3, There is no significant difference in the exit assessment as need analysis as regards ZSCMST quality education as assessed by the graduate professionals.

For problem 4, the implications of this exit assessment needs analysis to

the ZSCMST Graduate School were the following a. Importance of Exit assessment needs analysis b. Accreditation Standards to ZSCMST graduate professionals; c. Continual Service Delivery Satisfaction; d. Enhanced Curricular Offerings, specifically the would be new doctoral programs in the future; Recommendations were noted positively: 1. Conduct another study and increase the number of respondents regionwide using a modified survey questionnaire on the perceived quality of education at SUCs and PHEIs; 2. Conduct similar study to determine whether or not there is really a significant relationship between course offerings and promotions in the workplace of graduate professionals; 3. Include additional predicting variables influencing the process of launching new programs in selected SUCs and PHEIs across the region; 4. Comport a FGD to know the veracity of each perceived importance of offering new programs in the Graduate School based on the professional careers of the respondents.

Keywords

Professionalism, Needs Assessment Analysis, Quality Education

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