PROCEEDINGS

ECEEE-2019

2nd International Conference on Electronics Computer Engineering and Electrical Engineering

Venue: Hotel MyStays Shin-Osaka Conference Center, Japan

Osaka, Japan

Date: January 26-27, 2019

CONFERENCE BOOK OF ABSTRACT PROCEEDINGS

Consortium-ET

Consortium of Engineering & Technology

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Book of Abstracts Proceedings

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Proceedings of the 2nd International Conference on Electronics, Computer Engineering and Electrical Engineering (ECEEE)

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2nd International Conference on Electronics, Computer Engineering and Electrical Engineering (ECEEE)

Venue: Hotel MyStays Shin-Osaka Conference Center, Japan

Conference Theme: Forum for enhancement of research and developmental activities through networking and sharing ideas.

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CONFERENCE TRACKS

- Computer and Software Engineering
- Mechanical & Metallurgical Engineering
- Electrical & Electronics Engineering
- Civil Engineering
- Bio-Technology & Food Technology
- Chemistry & Chemical Engineering
- Physical, Applied and Life Sciences
- Interdisciplinary

CONFERENCE CHAIR MESSAGE

Michael Sasaoka

"International Conference of Consortium of Engineering & Technology" is a platform that thrives to support the worldwide scholarly community to analyze the role played by the multidisciplinary innovations for the betterment of human societies. It also encourages academicians, practitioners, scientists, and scholars from various disciplines to come together and share their ideas about how they can make all the disciplines interact in an innovative way and to sort out the way to minimize the effect of challenges faced by the society. All the research work presented in this conference is truly exceptional, promising, and effective. These researches are designed to target the challenges that are faced by various sub-domains of the social sciences and applied sciences.

I would like to thank our honorable scientific and review committee for giving their precious time to the review process covering the papers presented in this conference. I am also highly obliged to the participants for being a part of our efforts to promote knowledge sharing and learning. We as scholars make an integral part of the leading educated class of the society that is responsible for benefitting the society with their knowledge. Let's get over all sorts of discrimination and take a look at the wider picture. Let's work together for the welfare of humanity for making the world a harmonious place to live and making it flourish in every aspect. Stay blessed.

Thank you.

Michael Sasaoka
Conference Chair
Email: contact@consortium-et.com

Start Time

09:00 am - 09:30 am:	Registration & Kit Distribution
09:30 am - 09:40 am:	Introduction of Participants
09:40 am - 09:50 am:	Inauguration and Opening address
09:50 am - 10:00 am:	Grand Networking Session

Tea/Coffee Break (10:00 am - 10:30 am)

10:30 am - 12:30 pm: First Presentation Session
Room 1
Track A: Business, Social Sciences and Humanities

Presenter Name	Manuscript Title	Paper ID
Fan Chun Ming	The Transformed Politics from Globes View: Taking the Case of Religious Violence in Burma as Analysis	EMCG-JAN-103
Hsinyi Hu	The performance of research institutes entrepreneurship-the perspective of knowledge management	EMCG-JAN-104
Hu, Mei-chih	An Ethnomathematics Study: Preschool Caregivers Incorporate Multicultural Perspectives into the Mathematics Curriculum with Truku Culture Traditions	OSA-419-101B
Shuyuan Chen	Exploring Professional Role-Based Image Discrepancy	EMCG-JAN-102
Chi Jie Lu	Intermittent Demand Forecasting Models by Integrating Distributed Lag Non-Liner Models and Extreme Learning Machine	EMCG-JAN-106
Yang Chihte	Sustainable Production-Inventory Model with Collaborative Investment in Carbon Emissions Reduction Technology: A Stackelberg Game Approach	EMCG-JAN-107
Hsiu-Te Sung	A Study of the Influence of Industry Internship on Occupation Cognition and Employment Intention for Students Taking Employment Oriented Curriculum Programs in Industrial Category at Technical High Schools	IRBEMSH-019-ANI106
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01:30 pm - 03:00 pm: Second Presentation Session
Room 1
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Prof. Wei-Mon Yan	Experimental and Numerical Study on Performance of Air-Breathing Proton Exchange Membrane Fuel Cell Stacks	ECEEE-JAN19-101
Shao-Ku Kao	An Active Rectifier with Time-Domain Delay Compensation to Enhance the Power Conversion Efficiency	ECEEE-JAN19-103
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Yi-Zeng Hsieh	Prediction of battery discharge status based on recurrent neural network	ECEEE-JAN19-109
Track C: Medical, Medicine & Health Sciences		
Chun Yu Chuang	Gene-Network Analysis in the Potential Effect of Exposure to Bisphenol A on Lymphomagenesis	OSA-419-102M

Closing Ceremony (03:00 pm - 04:00 pm)

Participants Registered As Listener/ Observer

The following Scholars/ practitioners who don't have any paper presentation, however they will attending the conference as delegates & observers.

Official ID: OSA-419-103A
Elsaharahap binti Hasan Basri
Universiti Malaysia Sabah, Malaysia

Official ID:ECEEE-JAN19-102A
Daniel Todd
Curtin University, Australia

Conference Day 02 (January 27, 2019)

Second day of conference will be specified for touristy. Relevant expenses are borne by Individual him/herself.

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TRACK A

BUSINESS, SOCIAL SCIENCES AND HUMANITIES

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Exploring Professional Role-Based Image Discrepancy

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Keywords: Role-Based Image Discrepancy, Professional-Client Exchange, Clients Affective Commitment, Perceived Credibility

Today, professional services dominate across different fields because professionals are able to provide credible and trustworthy service quality that is requested in high demand for clients. Even in an organization, HR department, considering itself as HR service professional providers, provides HR services to other client department in an organization. However, as professionals put more effort on professional service, they somehow feel more frustrated that clients never got about their professions, in terms of role-based image discrepancy. Although previous studies suggested the idea of role-based image discrepancy, there are lack of theoretical and methodological foundations support. Accordingly, this study extends previous studies of role-based image discrepancy to explore professional role-based image discrepancy and its potential influences. Through interviewing with professionals in different field and their clients, this study is able to clarify the concept of role-based image discrepancy of its eight dimensions and develop the measurement scale. In addition, this study further provides the empirical evidences to examine the relationship of the role-based image discrepancy, perceived credibility, clients affective commitment and exchange relationship. Through this study finding, we expect to apply the concept of role-based image discrepancy in an organization to explore the professional relationship between HR department and other client departments.

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The Transformed Politics from Globes View: Taking the Case of Religious Violence in Burma as Analysis

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Keywords: The Transformed Politics, Globe, Religious Violence, Burma

There were kinds of ruling styles in Burma and had transfer to democracy up to date. Democracy was established recently through the gathering of cluster which collected the civil power nationally. Such civil power was stirred up by religious monks first and promoted to the citizens gradually. This model rose up the cluster for religious violence at the very beginning and transfer to anti the military government later. It caused Burma moving forward to democracy soon and led this state toward to another stage of politics Democracy style. Religion may be a reasonable cause for the terrorism to spread through the nation by preaching, drawing, and stirring the citizens globally. That may give an explanation to the real condition of terrorism, especially what had happened in Burma recently. This transformation of politics in this country would proceed forward through the religious violence initially as the process which altered the states political, economy, and international relationship with the globe. There are several causes which afford the terrorism and did support it to sustain in different areas. Burma had developed toward democracy through religious violence and could be an unusual case to explore, seek out the unknown, changeable future in Southeast Asia. Religious violence in Burma being counted as the critical, crucial, and essential element, grasped this country for gaining the bridging of the cluster at last. This cluster forced the state moving forward to another ruling. Persuading to gain the crowds as base and foundation which develop to be action positively, also stimulate civil competitiveness globally.

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The Performance Of Research Institutes Entrepreneurship-The Perspective Of Knowledge Management

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Keywords: Knowledge Management, Entrepreneurship, Spin-Off

Creating new business enterprises through commercialization and technology transfer from public research institutes may enhance industrial competitiveness and national welfare. Recently, practical and academic experts have paid significant attention to this critical issue; however, the activities involved in the entrepreneurial development process are complicated and members of research and development (R&D) teams from research institutions have primarily technical backgrounds and lack business-related knowledge. Therefore, spin-off companies from research institutions face great challenges during the start-up process. Through an in-depth case study, this study revealed that R&D teams may apply various knowledge management activities to reduce business risk and uncertainty and enhance entrepreneurial performance. This study contributed to the literature by focusing on knowledge to investigate the correlation between knowledge management activities and entrepreneurial activity during the spin-off process of an R&D team from a research institution. This study established a derivative entrepreneurial management model based on knowledge management. In practical applications, the results of this study may serve as a guide to the application of suitable proper knowledge management activities for R&D teams in research institutions to improve the performance of spin-off enterprises.

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Intermittent Demand Forecasting Models By Integrating Distributed Lag Non-Liner Models And Extreme Learning Machine

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Keywords: Demand Forecasting, Intermittent Demand Forecasting, Time Lag Effect, Distributed Lag Non-Liner Model, Extreme Learning Machine

Time series of intermittent demand is differ from conventional demand series in the respect that they have multiple periods of zero demand. Forecasting intermittent demand is a highly concern which arises in several real environments, such as spare parts, start-up productions, service products, etc. However, forecasting for intermittent demand is challenging and research in forecasting intermittent demand is limited. Most of existing intermittent demand forecasting models are usually used original data as input data. Since the time lag effect of factors contains valuable information about time delayed information of exposure-response relationship of factors, it can be utilized to construct effective intermittent demand forecasting models which can generate more accurate predicted values for intermittent demand data. This paper is based on time lag effect to propose novel intermitted demand forecasting schemes using distributed lag non-liner models (DLNM) and extreme learning machine (ELM). DLNM is a flexible model that simultaneously estimates the nonlinearity and distributed time lag effects of exposure-response relationship of factors. It provided an estimate of the overall effect in the presence of delayed contributions at each lag period and effects across lags. ELM is a simple, effective and promising neural network algorithm. A few studies have been done with the use of the ELM to demand forecast problems, especially to intermittent demand forecast. Thus, ELM will be used in this research for intermittent demand forecasting. Experimental results on real intermittent demand data show that the proposed DLNM-ELM forecasting scheme outperforms the two competing models and hence is an effective alternative for interval-valued forecasting of stock index.

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Sustainable Production-Inventory Model With Collaborative Investment In Carbon Emissions Reduction Technology: A Stackelberg Game Approach

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Keywords: Supply Chain, Sustainable Production-Inventory Model, Carbon Emission Reduction Technology, Stackelberg Game.

Generally speaking, greenhouse gases that lead to extreme weather are produced (mainly carbon dioxide) during operational processes of the supply chain system, such as product manufacture, storage, transportation, sales and usage. Further, with the rapid development of modern technology, carbon dioxide emissions (referred to as carbon emissions) generated by corporate activities can be reduced through specific capital investment. However, such kind of capital investment is rather costly and is unlikely for a single company to solely invest in it. If we have all members of the supply chain agree on sharing the investment funds of the relevant facilities and enjoying the benefits of improved carbon emission reduction, it will bring cost saving and profit increasing to the entire supply chain system. Moreover, in real life, most decision-making situations are correlated instead of independent. In this situation, Game theory is a study of mathematical models of conflict and cooperation between intelligent rational decision-makers and investigates the equilibrium problem between them. Therefore, this paper explores potential non-cooperative issue of the sustainable product inventory where two common carbon emission reduction polies:(1) Carbon Cap-and Trade and (2) Carbon offset are taken into account and collaborative investment in carbon emission reduction technology. We first establish the total profit and the carbon emission functions for the vendor and buyer, respectively. Then the optimal equilibrium solution between the buyer and the vendor under different carbon emission reductions by mathematical analyses. Furthermore, realistic data examples will be used to demonstrate the solution, and sensitivity analysis on the main variables will be performed. Finally, meaningful management implications obtained from numerical example analysis are provided reference material for corporate decision-making.

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A Study of the Influence of Industry Internship on Occupation Cognition and Employment Intention for Students Taking Employment Oriented Curriculum Programs in Industrial Category at Technical High Schools

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Keywords: Industry Internship, Employment Oriented Curriculum Programs, Occupation Cognition, Employment Intention

The purpose of this study was to investigate the influence of industry internship on occupation cognition and employment intention for students who take employment oriented curriculum programs in industrial category at technical high schools, and further to analyze if employment cognition holds predictability for employment intention. This study was conducted with survey method, and questionnaire revised by the researcher served as the research tool. Contents of the questionnaire include two sections: occupation cognition and employment intention. For occupation cognition, there are 26 questions in three dimensions including occupation information, career understanding, and work attitude; for employment intention, there are nine questions aiming to realize students intention to get into work market and their occupation decisions. Research objects were 1278 senior students taking employment oriented curriculum programs in industrial category at technical senior high schools, and 607 valid samples were gathered by way of cluster sampling. Statistical methods include independent sample t test, analysis of variance (ANOVA), and multiple regression analysis. Research results revealed that there existed slight positive inclination in occupation cognition and employment intention, and industry internship had positive influence on students occupation cognition and employment intention. Besides, occupation cognition had predictability in employment intention for students who took part in industry internship. With the experience of industry internship, students occupation cognition increased, and thus affected their employment intention.

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Ren (Forbearance) in Conflict Resolution and Its Relation to Marital Satisfaction

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Keywords: Ren (Forbearance) In Conflict Resolution; Marital Attitude; Marital Satisfaction

This study utilizes 2016 Taiwan Social Change Survey (Round7, Year2): Family (Academia Sinica, 2011), which provides baseline information derived from random sampling and surveying the general population. The aim is to analyze the relationship between ren (forbearance) in conflict resolution and marital satisfaction of married couples. In studying how ren in conflict resolution effects marital satisfaction. This study also took into account the mediating effect of the couples' marital attitude within the relationship between ren in conflict resolution and marital satisfaction. The study is based on 1035 sampled individuals. Research results show that more males adopt ren in conflict resolution than females. The number of males with college degrees or above outweighs those of middle or elementary school degrees, while females with elementary school degrees outweigh those of others; females with the length of marriage above 45 years are more than those between 8-15 years. As for generational demographic cohort, females belonging to Generation L are more than Generations X and Y, and for males, Generation M is more than Generation Y. Males show higher marital satisfaction than females. On the other hand, females with a high school diploma or above show higher marital satisfaction than those with only elementary school diploma. For females, the relationship between ren in conflict resolution and marital satisfaction show inverse correlation: the more females adopt a ren, the less their marital satisfaction. When including the mediating variable "marital attitude," females' adoption of ren in conflict resolution show less impact on marital satisfaction, which means that marital attitude has a mediating effect on females. As for the nuances within ren in conflict resolution, the more males adopt the "suppressive type" within ren in conflict resolution, the lower their marital satisfaction, while the more they adopt the "inclusive" type, the higher their marital satisfaction. For females, the more they adopt the "suppressive type," the lower their marital satisfaction.

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An Ethnomathematics Study: Preschool Caregivers Incorporate Multicultural Perspectives into the Mathematics Curriculum with Truku Culture Traditions

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Keywords: Ethnomathematics, Mathematics Curriculum, Preschool, Truku

The purpose of this study was to explore the perceptions of those of the caregivers regarding the concepts of ethnomathematics which was conceived as a cultural product and developed as a result of various activities from a Truku communal preschool at aboriginal inhabited area in Taiwan. Since 2016, the Truku communal preschool caregivers have tried to integrate mathematics with the study of cultural tradition of Truku. Transforming school-based and culturally-based mathematics curriculum with setting up learning areas of art and cognitive in the classroom. There were impediments to incorporate multicultural perspectives into the mathematics curriculum, include lack of materials and inadequate teacher training. The research data were collected by records of classroom observations, open-ended interview, regular teaching seminars, mentoring meetings, caregivers reflective journals, and field notes during the two years of guidance project of the Ministry of education through the principles of ethnography. Base on the literature review and qualitative data, the study obtained the following conclusions: (1) as an interesting human activity, mathematics is very entrenched in culture and can be intellectual diversity in curricula and pedagogy. (2) By incorporating hands-on activities and applications in art and cognitive areas, mathematics becomes meaningful to the young children of Truku. (3) The curriculum of ethnomathematics, such as weaving, planting, or beading of Truku, has improved preschool students inadequate skills in counting, locating, measuring, playing games, designing, and explaining. (4) the implementation of an ethnomathematical perspective in preschool mathematics curriculum not only helps young children to develop their intellectual, social, emotional learning by using unique Truku cultural referents to impart their knowledge, skills, and attitudes. Ultimately, this research hopes to demonstrate the importance of ethnomathematic approach in the preschool. It has provided preschool caregivers opportunities to incorporate multicultural perspectives into the mathematics curriculum with Truku culture traditions and has provided different ways for young children to maintain their identity while succeeding academically.

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TRACK B

ENGINEERING & TECHNOLOGY, COMPUTER, BASIC & APPLIED SCIENCES

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Experimental and Numerical Study on Performance of Air-Breathing Proton Exchange Membrane Fuel Cell Stacks

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Keywords: Proton exchange membrane fuel cell stack, Stack performance, Cathode channel design, Aperture ratio; Channel depth

In the present study, the performance of a high-powered air-breathing proton exchange membrane fuel cell stacks is investigated experimentally and numerically under various operating loading conditions. Effects of cathode flow channel design, assisted air-breathing, and inlet air flow velocity on the stack performance are studied in details. Three PEM fuel cell stacks with different cathodic aperture ratios of 50%, 58.3%, and combination of 50% and 58.3% for stacks A, B, and C are evaluated, respectively. The PEM fuel cell stacks are assembled by 15 single cells with active area of membrane electrode assembly of 130 cm2. The cell performance and temperature distribution of stacks A, B and C are investigated and compared under various operating conditions. To evaluate the performance of the stack, the I-V curves are disclosed and discussed. Results show that the stack performance with assisted air-breathing is achieved about 20 times higher than that under no fan operation. Besides, the temperature distribution of stack C is more uniform and stable than other stacks corresponding better performance of the stack. Stack A performs better than stack B at medium and low operating loadings, but stack B performs better than stack A at high operating loading conditions. Furthermore, it is observed that the deeper the flow channel depth and the slower the inlet air flow velocity lead to the higher temperature distribution inside the stack.

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An Active Rectifier With Time-Domain Delay Compensation To Enhance The Power Conversion Efficiency

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Keywords: Wireless Power Transfer, Active Diode, Delay Compensation, Time To Voltage Converter, PCE

This paper presents an active rectifier with time-domain delay compensation to enhance the efficiency. A delay calibration circuit is designed to convert delay time to voltage and adaptive control on/off delay in variable input voltage. This circuit is designed in 0.18m CMOS process. The input voltage range is from 2V to 3.6V with the output voltage from 1.8V to 3.4V. The efficiency can maintain more than 85% when the load from 50 1500 for 3.6V input voltage. The maximum efficiency is 92.4 % at output power to be 38.6mW for 3.6V input voltage.

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Mobile Handheld wireless 2D to 3D image projection teaching system

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Keywords: Mobile Wireless Control Technology, 3D Stereoscopic Projection Surface, Naked Eye 3D Image.

This paper utilizes the mobile wireless control technology as the control and communication mode of the handheld teaching device and uses the two-dimensional (2D) transform into three-dimensional (3D) image projection technology. This 2D image stored in the cloud turn into 3D projection mode through the software platform on the handheld device. Then, we use wireless projection technology to project the processed image onto a 3D stereoscopic projection surface. In the classroom application, the teacher can pre-store or instantly transmit the 2D teaching image to the cloud. After the conversion of the teaching system, the 3D image is projected onto the stereoscopic geometric projection surface of the classroom in conjunction with the interactive function design of the system software, the teacher can use the touch function of the mobile device to rotate viewing angle of the naked-view 3D stereoscopic image. According to the teaching needs, various teaching interactions and teaching contents also can be selected through the click function of the mobile handheld. The student can view the stereoscopic 3D through the naked eye 3D Image. Then, quickly understand the concept of complex 3D space that cannot be clearly expressed in 2D. Teachers can further use software interaction functions to design various teaching activities, enhance students' motivation and interest in learning with naked 3D digital teaching technology. This work further utilizes the distance sensing to automatically adjust the 3D sphere to be projected by the 2D image. Therefore, the naked stereoscopic 3D image will be completely fitted on the semi-spherical projection surface.

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Impact on Different Learning Achievement Students by Metaphor Rhetorical Teaching Approach with Mandarin Popular Music

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Keywords: Different Learning Achievement, Mandarin Popular Music, Metaphor Rhetorical Teaching Approach

The purpose of this study was to investigate whether different learning achievement students learning achievement might affect their learning outcomes by metaphor rhetorical teaching approach with mandarin popular music. A total of forty-seven third grade junior college department of nursing students from one classes in north Taiwan attending this study and they were divided into high score, middle score, and low score according to their academic achievement in the Chinese language class. This study adopts lyrics of mandarin popular music as metaphor rhetoric teaching, rhetoric knowledge test was used as the pre and posttests to assess students learning performance. Result reveals that high, middle and low score students has significant difference on their pretest and posttest scores. It means that this teaching strategy improves to all of attending students learning achievement. Besides, no significant difference was found on three learning achievement students by single factor variance analysis test (ANCOVA). It indicated that our strategy is beneficial to three learning achievement students. In addition, it can help to reduce the learning gap within high, middle and low score students. This study could assist teachers understanding the impact of metaphor rhetorical teaching approach with mandarin popular music into students learning achievement and further to be a basis to improve teaching and learning.

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A Study on the Effect of Cosmetology Learning by Interactive White Broads Teaching Strategy

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Keywords: Cosmetology Teaching, Interactive Whiteboards (IWBs), Learning Achievement

The purpose of this study was to explore the influence of students' learning achievement by integrated interactive whiteboards into cosmetology course. Convenience sampling was used and a total of thirty fourth grade junior college students from one classes in north Taiwan were attending this study. Students were divided into high score, middle score, and low score groups according to their academic achievement score in the last semester. Cosmetology knowledge test was used as the pre and posttests to assess students learning performance. This research implemented during third to sixth weeks in the first semester of 2017 academic year. Result reveals that high, middle and low score students has significant difference on their pretest and posttest scores. It means that this teaching strategy improves to all of attending students learning achievement. Besides, no significant difference was found on three learning achievement students by single factor variance analysis test (ANCOVA). It indicated that our strategy is beneficial to three learning achievement students. In addition, it can help to reduce the learning gap within high, middle and low score students. This study could assist teachers understanding the effective of IT technology into students cosmetology learning and further to be a basis to improve teaching and learning.

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Prediction Of Battery Discharge Status Based On Recurrent Neural Network

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Keywords: Deep Learning, Battery, LSTM, RNN, GRU

In this paper, the battery discharge state is predicted based on the recurrent neural network. The main purpose is to predict the battery discharge condition with a large amount of data, and then improve the traditional mathematical model prediction method. Nowadays, social mobile devices have become the mainstream. Every mobile device needs a battery as its power supply device. Therefore, the battery usage is very important. The battery discharge condition directly affects the use time of the mobile device. Therefore, this study will use the recurrent neural network. RNN, LSTM, and GRU predict battery discharge conditions. In the experiment, it is found that in the case of fixing five currents, compared with us. The method error has been improved by more than 2%, and it is better to be close to real data. In addition, our model can handle other timing problems, and I believe that it will perform well in future scalability.

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TRACK C

MEDICAL, MEDICINES & HEALTH SCIENCES

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Gene-Network Analysis in the Potential Effect of Exposure to Bisphenol A on Lymphomagenesis

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Lymphoma is a cancer affecting the immune system, the major risk factor is associated with exposure to occupational or environmental chemicals. Bisphenol A (BPA) is a common manufactory chemical widely used in polycarbonate and epoxy plastic products. BPA has been known able to interfere with immune reaction, and aberrant immune function is related to lymphoma incidence. BPA may be considered to induce lymphomagenesis through influencing immune system. However, there is very limited data concerning the effects of BPA exposure on lymphomagenesis. Hence, this study constructed gene network analysis to investigate whether BPA exposure would lead to lymphomagenesis through gene dysregulation. This study collected the public microarray samples of human non-Hodgkin lymphoma (NHL) tissues and human cells exposure to BPA from ArrayExpress. This study explored module genes of NHL and BPA exposure by WGCNA, respectively, and constructed the potential pathway of NHL progression in response to BPA exposure by Cytoscape. The results of the gene-network analysis presented that BPA exposure could activate the CTNNB1-NFKB1-AR-IGF1-TWIST1 pathway to lead to lymphomagenesis. Moreover, human lymphoblastoid TK6 cells exposure to BPA induced gene expression of CTNNB1, NFKB1, AR, IGF1 and TWIST1, caused DNA single strand and double strand damage promoted G2/M cell cycle arrest, and reduced expression of DNA repair genes TP53 and CDKN1A. This study found that BPA exposure can cause DNA damage and disrupt cell cycle and DNA repair function potentially for lymphomagenesis underlying CTNNB1-NFKB1-AR-IGF1-TWIST1 pathway.

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