THE 7TH INTERNATIONAL CONFERENCE ON
EDUCATION 2021
"Empowering Learners In A Digital World"

06TH – 08TH APRIL 2021

VIRTUAL CONFERENCE

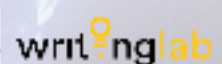# BOOK OF ABSTRACTS

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Book of Abstracts

7th International Conference on Education

(ICEDU 2021)

06th – 08th April 2021

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MESSAGE FROM THE CONFERENCE CHAIR ICEDU 2021

On behalf of the conference scientific committee and the staff at *The International Institute of Knowledge Management* (TIIKM), it is my great pleasure to welcome you all to a virtual ICEDU 2021. I have had the privilege of serving as chair of several previous ICEDU conferences, including Bangkok (twice), and Kuala Lumpur. This is my second virtual conference as chair. Who would have thought a year ago that we would still be in lockdown with most schools closed and conferences still virtual? While I certainly enjoy the face-to-face aspects of attending conferences, we are living in unusual times. To say that education globally has been hugely affected by the pandemic is an understatement.

Conferences such as ICEDU 2021 are critical to advancing our knowledge in education, determining important research and applied questions, and working on ways to mitigate the effects of children being in lockdown for over a year. The theme of the conference this year is the very timely "Empowering Learners in a Digital World". I say timely because it seems that the world has been catapulted into a reliance on digital technologies. With many organizations, including schools and universities, closed we had to jump very quickly to the use of digital technologies. Worldwide we did so, but the outcomes were likely less than the expectations and most likely every student in the world has been detrimentally affected.

I hope ICEDU 2021 will give you the opportunity to hear cutting-edge ideas and new approaches to education, especially the use of digital technologies. The conference organizers have put together an exciting series of keynote speakers and the papers to be presented represent a truly global array of ideas.

As I do when I welcome attendees face-to-face, I encourage you all to participate in the conference to the maximum extent possible. Attend sessions that interest you along with others that are outside your area of expertise. Use the conference to expand your horizons. Ask questions. Contact other attendees and maximize opportunities for virtual networking. For the second time, this year's conference is being run under exceptional circumstances. The virtual platform we are using has many features that allow networking among conference attendees. We believe the conference covers a very global aspect of exciting knowledge sharing and beneficial learning opportunities with the participation of attendees from different corners of the world.

Thank you in advance for your participation. Congratulations if your work was accepted for presentation. I am confident that we have an outstanding array of keynote speakers and presenters. Best wishes and I hope you all have an informative conference.

Prof. Eugene P. Sheehan
ICEDU 2021 Chair
Dean and Professor Emeritus
College of Education and Behavioral Sciences
University of Northern Colorado, USA

LEARNING SCIENCE (B)

EFFECTIVE TECHNOLOGY IN THE CLASSROOM (D)

DIGITAL LEARNING, DISTANCE EDUCATION & SOCIAL MEDIA (F)

CURRICULUM THAT WORKS (G)

MATHEMATICS EDUCATION (H)

ASSESSMENT RELIABILITY AND VALIDITY (J)

POSTER PRESENTATIONS (P)

KEYNOTE SPEECH

INNOVATION IN EDUCATION: AN ECOLOGICAL APPROACH TO SUSTAINING CHANGE

Fox B

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ABSTRACT

Education world-wide was forced to change practices last year due to the pandemic. These changes continue to impact on how we learn and teach in a digital world. Some of these changes have led to an acceleration of improvements to empowering student learning as well as the creation of many teacher innovations. One big question is: what are we doing to monitor these changes, to identify, reward, transfer and sustain innovation and good new practices? This keynote outlines how these changes have started to reshape one large-scale higher education institution in Australia, focusing particularly on the design of courses and programs and how assessment and associated professional development of teaching staff have changed. The presentation will review online initiatives; curriculum frameworks; course design models and tools; staff development; changed contracts for teachers; and experiments in online assessments to replace traditional face-to-face assessments.

Keywords: education, innovation, teaching, online initiatives

PLENARY SPEECHES

THE CLASSIFICATION OF KEY COMPETENCES – AN OVERVIEW FROM THE BEGINNING TO THE PRESENT

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ABSTRACT

About 40 years ago the word key qualification appeared in the German literature. With the beginning of this century, it was called key competences. Why this change will be explained. Soft skills or better key competences are getting more essential in the normal working life. In Germany nearly all universities have implemented key competences in their study courses. Human factors, skills, qualifications and competences are defined, and the difference are shown. The traditional portfolio of the different key competences in Europe (European Union) and of the OECD are explained. What are the demands in the future to key competences were discussed.

Looking in the future with an open-source book to see the journey:

https://nextskills.org/wp-content/uploads/2020/03/Future-Skills-The-Future-of-learning-and-higher-education.pdf

Keywords: key competences, soft skills, portfolio

EDUCATION AND TECHNOLOGY TRANSFER - VOCATIONAL EDUCATION AND TRAINING AS AN ECONOMIC LOCATION FACTOR

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ABSTRACT

Vocational qualified specialists form the fundament of a functioning economy. Therefore, it is the primary task of vocational schools to provide the economy with well-trained specialists. In 1909 Alfred Weber developed the first location theory, which made it possible to determine the optimal location of an individual industrial company from a business management perspective. This first systematic presentation of an industrial location theory was based on - from today's point of view - simplified assumptions and identified three economic location factors to determine the optimal location of a company. The qualification of employees was not yet reflected in Weber's theory. In the lines of development of today's industrial nations, it can be seen that the work structures for the production of goods can be organized in various ways. Since the middle of the 20th century at the latest, the qualification of a company's employees has played an increasingly important role in the success of the company. Especially in small and medium-sized enterprises (SMEs), where the bulk of value creation takes place, not only academic but also vocational education and training has become a decisive economic location factor for companies today. In the context of the presentation, Weber's original location theory forms the starting point of the considerations. This is followed by a systematic presentation of central economic location factors from today's perspective. The importance of vocational education and training for the economic development of a country is related to these factors and finally factors influencing vocational training in terms of its goals, contents and methodological design are outlined.

Keywords: vocational education, location theory, economic development, technology transfer

ENGINEERING CHANGES IN UNIVERSITY TEACHING PROCESSES FROM THEORY TO PRACTICE IN THE CONTEXT OF AUTOMATED DRIVING OF CARS - A GERMAN VIEW

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ABSTRACT

Engineering education is designed to provide skills that students need for their future careers as production, development and research engineers. In recent decades, many technical systems have changed in a revolutionary way, mostly from simplicity to complexity. A typical example of this are the industrial revolutions that began with manual, machine-based mass production called Industry 1.0. Via the generations Industry 2.0 (electrification) and Industry 3.0 (automation) we have currently reached the intelligent machine networking called Industry 4.0. This technical change is also shaping current engineering education in didactics and methodology, which will be discussed in the paper specifically in the case of automated driving for automotive. The presentation analyses the new orientation of the teaching programme in information technology for automotive in the generation Automobile 4.0 on the basis of the teaching programme "Traffic Engineering" in the specialisation "Traffic Telematics" at the Technical University of Dresden in Germany (Europe). Here, all courses adapt over time to the new requirements of telematics in terms of connected and safe driving. This includes modular teaching blocks such as traffic sensor technology (e.g. Lidar, GNSS), car IT (e.g. Car2X, OBU) and digital signal processing (e.g. Datafusion, Digital Map). The lecture explains that modern automotive engineering education is currently driven by the new research challenges in autonomous driving. This leads to adapted interdisciplinary knowledge transfer approaches such as modules from mathematics (e.g. data mining), computer science (e.g. machine learning) and automotive engineering (e.g. real environment sensor technology in the test field). The teaching examples, practical contents and demonstrator experiments are accompanied by current research projects of the chair, which will also be discussed at the end of the presentation.

Keywords: Didactics, Engineering Training, Autonomous Driving, Interdisciplinary Knowledge

ORAL PRESENTATIONS

A1   **[01]**

DEVELOPMENT OF COLLABORATIVE LEARNING TEXTBOOK TO PRACTICE SCIENTIFIC LITERACY SKILLS: PRELIMINARY STUDY OF STUDENT EXPERIENCES IN USING BIOLOGY TEXTBOOK

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ABSTRACT

Science literacy skills are needed in 21st-century learning. As a developing country, schools in Indonesia should create learning that can practice these skills. The learning strategy requires students to explore and use scientific knowledge to solve problems in collaborative learning. The collaborative learning model is suitable for learning that is closely related to environmental problems, one of which is biology. Therefore, this study aims to determine the level of understanding of students related to biology (ecosystem) material, to find out students' experiences in using collaborative learning textbook, and to find out the conditions of biology learning that have been implemented in schools. This type of research is descriptive quantitative. The research subjects were 30 students of SMAN 1 Ngunut. The data collection technique was done by observing, testing, and questionnaire. The sample of respondents was taken by purposive sampling on the advice of the Biology teacher at SMAN 1 Ngunut. The results of this study are as follows: 1) In terms of the level of students' understanding of biology (ecosystem) material, it is classified as lacking. 2) Students' experiences in learning biology so far have never found-based textbooks collaborative learning. 3) Learning activities to practice scientific literacy skills are rarely carried out. After adding up the average percentage of each indicator, it is known that the students' understanding is still in the poor category with a percentage of 44.8% so that better knowledge and readiness are still needed to be able to achieve the 21st-century learning goals. One of the steps to solve this problem is to use learning resources that practice scientific literacy skills a lot. Therefore, it can be concluded that collaborative learning-based textbooks need to be developed.

Keywords: textbooks, collaborative learning, ecosystem, scientific literacy

A2 [02]

THE ROLE OF JOB INVOLVEMENT AND SELF-EFFICACY ON ORGANIZATIONAL COMMITMENT

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ABSTRACT

The purpose of this study was to determine the role of work involvement and self-efficacy on the organizational commitment of family planning field workers in the Badan Kependudukan dan Keluarga Berencana (BKKBN) of West Java Province, Indonesia. The research was conducted using a survey method with a quantitative approach and path analysis techniques. The research sample was 301 family planning field officers using simple random sampling technique. The data were obtained through a questionnaire and analyzed using path analysis techniques. Based on the results of data analysis in this study, it reveal that (1) job involvement has a positive direct effect on organizational commitment; (2) self-efficacy has a positive direct effect on organizational commitment; and (3) job involvement has a positive direct effect on self-efficacy. Thus, job involvement and self- efficacy have an important role on improving the organizational commitment.

Keywords: job involvement, self-efficacy, organizational commitment

A3 [03]

THE EFFECT OF ORGANIZATIONAL CULTURE AND EMPOWERMENT TOWARDS TO THE SERVICE QUALITY OF GENERAL BUREAU EMPLOYEE AT THE MINISTRY OF STATE SECRETARIAT

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[2]Prof. Dr Moestopo (Religious) University, Indonesia

ABSTRACT

The purpose of this research is to reveal the effect of organizational culture and empowerment in correlated to general bureau quality services, directly or indirectly, and to determine appropriate strategies to improve the quality of service. This research uses survey method in quantitative research. The sum of this research is depicted from staff members of General Bureau at The Ministry of State Secretariat of The Republic of Indonesia. It is denoted as N = 307 staffs using Slovin Theory obtained n = 76. The technique in analyzing data used SPSS and LISREL. In the result of the research revealed that (1) the culture of an organization has a direct impact towards the quality of a service, (2) empowerment gives a direct positive impact on service quality, (3) culture of an organization also gives a direct impact on empowerment, (4) the culture of an organization through empowerment results a positive impact on service quality, at General Bureau at Ministry of State Secretariat of The Republic of Indonesia. It can be concluded that the variable that directly affects service quality is the variable of organizational culture with a path coefficient of 0.322, it means that an increasement in organizational culture will cause an increase in service quality. This study examines the quality of service and the factors that influence it are the variables of organizational culture, empowerment with work engagement as an intervening variable that has never been done before, both in the sample, research location and the method used by the researcher. The results showed that a significant model for improving the quality of employee services at the General Bureau was by improving organizational culture, empowerment with work engagement as an intervening variable.

Keyword: Organization Culture, Empowerment, Service Quality

A4   **[04]**

EFFECT OF INNOVATION, TRANSFORMATIONAL LEADERSHIP AND COMPETENCY ON EMPLOYEE PERFORMANCE

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ABSTRACT

The purpose of this study was to analyze the effect of innovation, transformational leadership and competence on employee performance. In addition, to analyze whether competence can mediate the relationship between innovation and employee performance and transformational leadership with employee performance to find employee performance models. The empirical hypothesis that has been tested using the SPSS format. Hypothesis testing is carried out using empirical data obtained from the results of questionnaire answers to 150 employees with a total population of 587 employees within the Ministry of Law and Human Rights at the Human Resources Development Agency for Law and Human Rights, West Papua Regional Office Unit and Riau Regional Office Unit. The sampling technique used is proportional sampling. The research method used is a quantitative approach, data analysis techniques using descriptive statistical analysis and structural equation modeling analysis. The results of descriptive statistical analysis, namely the mean number and the perception index indicate that the employees at the three research loci in each construct are classified as agree. After going through the stages of normality test, linearity test and significance test, the results showed that 7 (seven) hypotheses were accepted: 1) Innovation has a positive direct effect on employee performance, 2) Transformational leadership has a positive direct effect on Employee Performance, 3) Competence has a positive direct effect Employee Performance, 4) Innovation has a positive direct effect on Competence, 5) Transformational Leadership has a positive direct effect on Competence, 6) Innovation has a positive indirect effect on Employee Performance through Competence, 7) Transformational Leadership has a positive indirect effect on Employee Performance through Competence. There is empirical evidence from new findings that simultaneously increasing innovation together with transformational leadership and competence can improve employee performance. The bureaucratic organization of the Ministry of Law and Human Rights, which is transforming into a digital bureaucratic organization, needs to pay attention to the innovation factor in the organizational structure that supports employee creativity performance, which is the indicator that has the greatest influence in improving employee performance.

Keywords: Innovation, Transformational Leadership, Competence, Employee Performance

A5 [05]

IMPROVING PARTICIPATION AND LEARNING OUTCOMES OF DYSCALCULIA STUDENTS IN ELEMENTARY SCHOOL WITH THE AMONG KI HAJAR DEWANTARA SYSTEM

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ABSTRACT

Dyscalculia can be found in almost all schools. This study aims to increase the participation and learning outcomes of students with dyscalculia in the material of addition and subtraction of integers in grade 6 elementary school through the Among Ki Hajar Dewantara system. The research was conducted at SDN Duren Sawit 05 Jakarta which involved 5 dyscalculia students. The research was conducted through an action research method which was carried out in 2 cycles. The results showed that the among Ki Hajar Dewantara system could increase the participation and learning outcomes of students with discalkulia in elementary school in mathematics. The student participation rate increased from 38% at the pre-cycle time to 84% at the end of the cycle. Achievement of learning outcomes also increased from 42% at pre-cycle to 86% at the end of the cycle. The among Ki Hajar Dewantara system used in this research involved 5 key activities, namely (1) question and answer based presentation, (2) video learning, (3) use of used goods, (4) simulation, (5) visualization of mathematical symbols. with colors, and (6) the use of songs and yells.

Keywords: dyscalculia, classroom action research, the among Ki Hajar Dewantara system

A6   **[06]**

THE IMPACT OF THE TYPES OF EXECUTIVE EDUCATION PROGRAMS ON THE INTERNATIONALIZATION AND INNOVATION OF BUSINESS SCHOOLS

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ABSTRACT

Management education is undergoing a gradual and steady transformation, which has increased the level of professionalism of faculties, the quality of the courses, the competitive scenario for business schools, and the emergence of many new programs in executive education worldwide. Due to the growth in the number of top-level programs in executive education programs and rankings, business schools around the world have to differentiate in terms of several factors; such as internationalization and innovation. This manuscript focuses on the impact of executive education programs on the internationalization and innovation of top-level business schools. To this end, this manuscript follows a two-step methodology. In the first round of analysis, we performed a correlational analysis using the linear regression (OLS) method to determine if there is a relationship between the Internationalization and Innovation of business schools by considering the two types of programs in executive education: The Global MBA, and the Executive MBA. In the second round of analysis, we used the One-Way MANOVA technique to evaluate the impact that Location (i.e., the geographical distribution of the business schools) has on internationalization and innovation. The results of our research present two main sets of conclusions. In the first one, we found that there is no positive correlation between innovation and internationalization in Global MBA programs. However, there is a positive correlation between innovation and internationalization in Executive MBA programs. For the second set of conclusions, the research notes that there is no impact on the types of programs in the internationalization and innovation of business schools.

Keywords: Innovation, Internationalization, Executive Education, Global MBA

A7 [07]

HEART MATH: REDUCING EXAM STRESS

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ABSTRACT

Currently students get upset and very stressed when they have to face math tests, which affect their academic performance. This stress makes students freeze up in their exams, even though they have studied and prepared for it, the knowledge they have is not reflected in their grades. The aim of this study was to measure the impact and change in anxiety that students had and how this affected their grades in their math exams when applying this innovative tool. This information is very useful for teachers to help their students to reduce stress in the math exams and improve their grades. Experiences of stress and negative emotions such as anger, frustration, and anxiety, the rhythm of the heart becomes more erratic, indicating a desynchronization between the parasympathetic (PNS) and sympathetic system (SNS) of the nervous system. In the survey, the Likert scale was from 1 to 5, expressing from less to higher anxiety, the results showed that the average before applying Heart Math technique, was 3.3 y and after using it was 2.2, it was a decrease of 1.1 points showing a decrease in the anxiety when students did a math exam. Regarding the question having thoughts such as I am going to suspend, I do not know anything, I am going to be blank at the time of the math exam, the results showed that the average of the students in the Likert scale before using the Hearth Math technique was 3.8 and after it was 1.93, showing this technique generate greater confidence to the students. The results also showed 91% of the students improve in their math grades after applying the HeartMath tool.

Keywords: Anxiety, tests, math, stress

A8   **[08]**

MONARCH ROUTE: AN INNOVATIVE COLLABORATIVE PROJECT WITH REAL LIFE IMPACT

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ABSTRACT

Monarch Route was a university award-winning project, having won the Permios Latinoamerica Verde in 2018. The project followed a research-based methodology and implemented a vertically integrated collaboration which included 181 undergraduate students; the entire student body enrolled in the Sustainable Development Engineering course of the Tec de Monterrey, Campus Santa Fe, in 2017. It was conducted in conjunction with the Fundación Nacional para la Conservación del Hábitat Boscoso de la Mariposa Monarca A.C. (FUNACOMM) so as to stop and revert the disappearance of the monarch butterfly and at the same time promote benefits for the rural communities found throughout the migratory route of this species. The purpose of this work is to inspire the academic community to design successful projects which develop transversal and disciplinary competencies. The project answered the following research question: What are the learning outcomes from participating in a project with real life impacts, working in a vertical and horizontal collaboration system? Using a qualitative methodology, we describe the details of the implementation and learning outcomes. The Monarch Route project intrinsically motivated the students since it allowed them to collaborate, vertically and horizontally, in a socially relevant project, as well as having the choice and control over their education. By means of a text analysis of 22 final remarks of participating students, it was evident that they were able to recognize environmental, conservation and sustainable development problems and analyze their impact, in addition to being aware of the social aspects associated to them, and above all, recognize the link of these type of projects with their professional life and their social commitment to Mexico.

Keywords: vertically integrated project, engagement, autoregulated learning, RBL, text analysis, sustainability.

A9 [09]

TikTok & CHEMISTRY

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ABSTRACT

In PrepaTec Campus Morelia, the subject of inorganic chemistry, is taught at the third semester of High school, five days a week in 50-minute sessions. Last year we had 120 students' ages between 16 and 17 years distributed in 4 groups taking the class. Due to the contingency of COVID 19, the class was redesigned to adapt to the virtual model. As part of the class in the face-to-face model, several laboratory practices related to the topics of the course are carried out and the idea was to re-designate them as well to the virtual model. Therefore, it was thought of activities that promote the interest of the students so that they develop the scientific competencies using technology; after reading the article on the use of TikTok in the classroom it was decided to use this tool, The idea was to find two fun activities for the students to do at home and to comply with showing a chemical phenomenon and instead of making a written report they were asked to make a video using the TikTok app so that the students would present the conclusions and explanation of these observed phenomena. The two activities that were chosen were: Intermolecular Forces: Magic Trick and Hot Ice from Bicarbonate of Sodium In the satisfaction survey that was applied to the 130 students, at the end of the semester August-December 2020, on "Did you like the new format of the chemistry labs using TikTok app?", on a scale likert from 1 to 5 where (1 is very satisfactory and 5 insatisfactory), Grades of 4.76 were obtained with a standard deviation of 0.28. The main purpose is to motivate students to want to learn about inorganic chemistry. Include in the planning activities that are innovative and that encourage motivation in the students

Keywords: TikTok, Chemistry, Labs, Vitural Education

A10   **[10]**

BEST-SELF STORIES

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ABSTRACT

Adolescence is a marked period of many changes both physical and psychological and are generated in the high levels of anxiety and frustration which can affect their academic performance and well-being especially at this time of pandemic. There is evidence of the benefits of Storytelling in education, such as the development of critical thinking, resilience, among others (EduTrends Storytelling, 2017) . the use of technology and storytelling through the creation of videos to work and promote emotional intelligence in adolescents . PrepaTec Morelia students developed videos My Best Story, to promote positive emotions and emotional intelligence through anticipation, savoring, and reminiscence . using the application StopMotion Studio and SilentFilm Studio. Our population was 240 students of High School at PrepaTec Morelia, studying the class of Tutoring and Well-being. As a first step, the students made what we call Story_Emotion_Map which consists of two parts: in the first step, each student decided on the composition of their video, the characters, the analysis of the feelings experienced as well as any obstacles they have faced. Later, with this information, they wrote the script that should include its beginning, development and end, to later proceed to make the video. After applying an emotional inventory made up of 20 items on a five-point Likert scale, whose response ranges from 1 (It never happens to me) to 5 (It always happens to me) which assesses mood, joy and optimism. Grades of 4.53 were obtained with a standard deviation of 0.15. We are convinced that among the new skills required in the education of the future is emotional intelligence for students to be ready to face life challenges Revolution 4.0

Keywords: Reminiscing, Savoring, Storytelling, Emotional intelligence

A11   **[11]**

EDUCATION 4.0 FRAMEWORK: ENRICHING ACTIVE LEARNING WITH VIRTUAL AND TECHNOLOGICAL TOOLS

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ABSTRACT

At the beginning of 2020, many educators were still unclear what exactly it meant to design teaching-learning processes in the Fourth Industrial Revolution, "Education 4.0". Despite this, and due to the Corona crisis, all institutions were dizzyingly pushed into partially known digital and technological environments, dragging teachers and students with them. In the field of higher education, the situation was doubly challenging: there were still deep misunderstandings about how to improve the cognitive abilities of Generation Z students, and serious confusion about the fact that technological tools -even advanced- can hardly replace an entire cognitive theory. The present work is a study on the effectiveness of the Active Learning approach in STEAM (Science, Technology, Engineering, Art and Mathematics); the didactic use of technological tools (including screencasting and podcasting) and, the design of innovative strategies to enhance the development of the skills declared in the Education 4.0 Framework: global citizenship, innovation and creativity, technological mastery and interpersonal awareness. The methodology used was quantitative-experimental with a 4-group Solomon design, involved more than 250 students and was developed over three years, including the two semesters of 2020 (in' 100% virtual environments). The use of VALUE rubrics (Valid Assessment of Learning in Undergraduate Education) allowed the obtaining of conclusive results: (i) the importance of a correct diagnosis of the cognitive maturity of Generation Z students to favor the formation of metacognitive awareness; (ii) the impact of the design and implementation of adequate cognitive tools in the quality of the learning outcomes; and (iii) the relevance of the dosed use of technological tools in each stage of a 2D learning taxonomy (cognitive process dimension / orthogonal knowledge dimension).

Keywords: Education 4.0, Critical Thinking, Creativity, Higher Education, Educational Innovation

A12   **[12]**

ROLE-PLAY SIMULATION OF TELEMEDICINE FOR UNDERGRADUATE HEALTH STUDENTS

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ABSTRACT

Telemedicine has reemerged as the way to provide patient care amid the COVID-19 pandemic, as it poses a safe and cost-efficient alternative to presence-based medical appointment. Health professionals learned by trial error to adapt to this new model, it is crucial that these virtual visits environments become part of the training that the students receive during their pre-clerkship curriculum. One technique to do so is role-play which provides a learning environment for students to experience their future professional context in a safe setting. An educational innovation was conducted in the Introduction to Clinical Skills course to train students to conduct a telemedicine visit using role-play simulation. The objective of this study was to assess the implementation of role-play to train the students for telemedicine visits. The study methodology considered quantitative approach with a cross-sectional and descriptive design. The sample consisted of 60 students in the third semester on a health professions undergraduate program in Tecnologi co de Monterrey.They were organized in teams of three, each one represented a role: health professional, patient and observer. Three ambulatory care clinical cases were given to the students: abdominal pain, bad breath, and insomnia. A basic description was provided of patient history, present illness and some medical history facts. Students received remote training on self-exploration through videoe tutorials. After the simulation students completed anonymously an online questionnaire to describe their learning experience in the virtual role-play simulation. The results show that students that assumed the health professional role considered verbal and nonverbal communication are key to establish empathy in telemedicine. The students with patient role highlight the importance of patient engagement to have the needed data to make a productive consultation. Finally, the observant student emphasized the importance of early development of telemedicine skills as these strategies will become a must for remote care to patients even after COVID-19. Although the pandemic posed an unprecedent challenge to health professionals' education, it has reorganized the priorities on the pre-clerkship curriculum., Becoming proficient on these skills will become an advantage for graduates who will be integrating to a competitive professional practice, as well as proving them the experience to adapt for complex and uncertain contexts.

Keywords: educational innovation, higher education, role-play, simulation, telemedicine, health professional's education

A13   **[13]**

ONLINE CRIMINAL CLINIC

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ABSTRACT

Confinement brought virtual classes that were once an exception, now become the rule. Are there implications for crime victims access to justice? The penal clinic at the Tecnológico de Monterrey in the City of Puebla, México, was established four years ago from the project "Voice of the Victims" in conjunction with the Arizona State University and sponsored by the Merida Initiative. The criminal clinic works in conjunction with an external institution called "socio-formador", which handles cases of crime victims. The main objective is that the student develops disciplinary and transversal educational competencies necessary for criminal legal litigation through experiential learning from the role of the victim's lawyer who is an active part in the entire criminal process; the secondary objective is to intervene proactively in society, taking direct responsibility for the procedural progress of criminal cases assigned as well as the reparation of the damage to the victim of the crime according to the specific situation the case and the victim. The methodology follows a format for assigning real criminal cases to students who assume the role of Legal Advisors, that is, lawyers for crime victims; they are guided by two professors from the University and a lawyer assigned to each student by the socioforming Institution, and are evaluated according to the procedural progress of the assigned cases. In the August-December 2020 semester, the clinic was online and the methodology had an important transformation in the academic and practical aspects, but not the essence, that is, in the responsibility of care and monitoring of real criminal cases, as well as activities alternatives for access to justice such as: counseling for crime victims, preparation of briefs and guidelines for hearings. The process had negative implications due to the lack of necessary interaction with the authorities and the follow-up before the courts, but not in substance learning, where the difference in the format of the clinic as opposed to a traditional subject was reflected.

Keywords: criminal clinic, experiential learning, transformative teaching

A14 **[14]**

FLIPPED LEARNING STRATEGY: CASE STUDY IN SOFTWARE ENGINEERING MAJOR

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ABSTRACT

The quest to find innovative ways to implement the teaching–learning process to provide students a significant learning environment has intensified in the middle of the pandemics situations that we have nowadays. The use of technology has become mandatory in order to provide teachers and students with tools to develop skills and to track and support this process. On light of this, learning strategies that provide flexibility are necessary to address the situations that appear in distance learning. One of these flexible learning strategies is flipped learning. Although, there is an agreement about the advantages and benefits of this strategy compare to traditional ways of teaching, there is limited evidence about its effectiveness upon students' learning gains. Furthermore, research about the relationship between this strategy and the characteristics of the students is scarce. In this work, we present a quantitative study that was applied to 111 students majoring in a computer science and software engineering program. A flipped learning methodology was evaluated in a pretest-posttest process with focus and control groups. Normalized learning gains were estimated to know if the students learn better that in a traditional pedagogic strategy. Additionally, a study of the relationship between these learning gains and the learning modalities of the students was conducted. Significant results were found that point to the benefits of Flipped Learning. From a statistical analysis, it was found that students in the focus group had a better performance than students in the control group. This difference is between 3.03% and 14.98%. Also, it was found that kinesthetic students have a 0.23 correlation coefficient on the normalized learning gain.

Keywords: flipped learning, learning strategies, learning gains

A15   **[15]**

INNOVATIVE INTERNATIONAL PROGRAMS: THE CASE OF TECNOLOGICO DE MONTERREY

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ABSTRACT

Advances that come with Industrial Revolution 4.0 have dramatically change the way that conducting business. The need for progressive curriculums that support critical thinking, cross-cultural collaboration, and experiential learning have emerged in business schools. As a response, education institutions have started to devise new teaching styles and programs to cater these needs. The present study investigates how Tecnologico de Monterrey (TEC), an emerging market-based institution, managed to build summer and winter programs that meet these requirements while supporting the institution's reputation through leveraging its firm-specific advantages, namely network and multi-domestic campuses. In explaining how and why these programs achieve such a high success, author propose a multi-cycle process model for building an academically rigorous program while meeting the current needs of the modern education. The contribution of the given paper can be explained in three folds. First, it contributes to the teaching literature via providing a unique program structure. Second, it demonstrates how recent learning trends and needs can be addressed through an iteration base program. Third, the study contributes learning and international business teaching literature via exploring one of the most reputable education institutes in Mexico and Latin America.

Keywords: education innovation, progressive programs, international programs, curriculum building

A16 [16]

MAKING BIODIESEL IN VIRTUAL REALITY

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ABSTRACT

Virtual reality (VR) makes it possible to access laboratories in places that lack them, and it fosters students' interest, curiosity, and motivation. This project consists of the "virtualization" of a biodiesel production process, making it accessible to all the students taking a basic chemical engineering course in Tecnologico de Monterrey, Mexico. The project included the recording of a 360-degree video, and the design and implementation of a laboratory practice activity. The impact of the use of VR on intrinsic motivation (student engagement) was evaluated statistically with the aid of the Motivational Strategies Learning Questionnaire (Pintrich et al. 1991). After the intervention, the students on the experimental group showed statistically significant differences of an increase in intrinsic motivation (engagement) and self-regulation ($X_{experimental}$ group =4.61, $X_{control}$ group= 4.37; t=-2.29; $p<0.05$), with the intervention having a large impact (effect size = 1) when the students physically performed the experiment. Furthermore, those who attended the lab had better scores than the ones that did the VR experiment, and the latter did better than the control groups. This project lays groundwork for the use of virtual reality in other courses and content within the area of chemical engineering and shows that the VR experience is a good alternative to increase students' engagement when lack of resources and infrastructure constraints exist.

Keywords: virtual reality, chemical engineering, biodiesel, engagement, MSLQ

A17 [17]

SEMESTER I BLUE SEA: INNOVATION AND PLANNING TO STRATEGIC SUSTAINABILITY

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ABSTRACT

This article presents the results of a Semester I experience at Tecnológico de Monterrey. This new educational format establishes the development of innovative strategies that facilitate the improvement of professional competences by exposing those who participate to challenging activities and community engagement. The experience took place in Baja California Sur, Mexico, where fisheries and large marine ecosystems are being exploited and depleted. The peninsula of Baja California was once recognized for its abundance of seemingly endless marine fauna, however, over the last twenty years, marine fauna has severely diminished, and fishing yields consequently reduced. The impacts to local fisheries have given rise to urgent economic and social problems. To address this complex issue in the fishing communities of Laguna San Ignacio, located within the Biosphere Reserve of El Vizcaino, was studied, with the collaboration of the NGO Noreste Sustentable. The experience was designed to take the students through a process of diagnosis, design, implementation, and reflection, through Challenge Based Learning premises. Hence, the experience included visiting the communities and carrying out various activities focused on moving towards a sustainable fishing model and the integral development of the communities. The paper presents the background, the key elements of the experience design, results and conclusions.

Keywords: competency-based learning, sustainability, sustainable fishing, fishing communities

A18   **[18]**

TEACHING FOREIGN LANGUAGES TO ELEMENTARY GREEK STUDENTS WITH LEARNING DISABILITIES: DIFFERENTIATED INSTRUCTION AND SUPPORTIVE MATERIAL

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ABSTRACT

Nowadays, a dramatic increase is observed in the number of children who present learning disabilities. For this purpose, the specialists in education issues seek for applicable teaching methods, so as to encourage equity in education and at the same time, academically reinforce all students. Differentiated teaching is considered as the best possible solution in order for this purpose to be fulfilled. In several foreign countries, differentiated teaching is already taught and applied with great success. Differentiated instruction also concerns in a great extent pupils with learning disabilities even in elementary school. Even though today's teaching methods are designed to facilitate to some extent children with learning disabilities, it is observed that in Greece there is a lack of specialized support material for teaching French as a foreign language in relation to the support material that exists for teaching English as a foreign language. In this study, the material used by foreign publishers for teaching English as a foreign language is compared to the corresponding material for teaching French and its effectiveness to the performance of elementary pupils having learning disabilities in Greece is assessed. Finally, there is reference to the results of a research conducted in Greece in order to evaluate whether and how the application of differentiated teaching can help elementary Greek pupils with learning disabilities to learn French as a foreign language in a more effective way.

Keywords: differentiated instruction, learning disabilities, elementary school, educational material, French & English language

A19 **[19]**

A SELF REFLECTION AS A DESIGN STUDIO (FOUNDATION YEAR) INSTRUCTOR

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ABSTRACT

The paper is a self-reflective study of my own teaching experiences spanning over the last 5 years. I will be attempting to review my practice by employing a wide range of articles on developing patterns on contemporary trends of teaching. I have a belief that that is always a need to adapt to the evolving roles of teachers in order to brace themselves for contemporary challenges. I will utilize student evaluations and statements from my colleagues, self-documentation a video of my class lectures and interactions. I would focus on reflecting on my teaching methods as a tool for self-evaluation. The best measure of an intelligent teaching specialist is being mindful of keenness and skillfulness of her students. Thus, educating others can be carved into a positive and rewarding experience for a teacher.

Keywords: Self Reflection, challenges, Art and design, feed back

A20   **[20]**

TRANSFORMATION OF SCHOOL EDUCATION THROUGH SYSTEMS THINKING IN THE CONTEXT OF IMPLEMENTING PROJECT BASED LEARNING

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ABSTRACT

Schools are an interconnected community and any change that needs to be brought in the system must address all of stakeholders namely; students, teachers, education leaders and parents. In India, the focus in education largely has been on rote memorizing and teaching has always been practiced to this end. Teachers, in this context, do not push for their learning and change in the quality of teaching, hence the inertia of rote learning continues. Taking this on as an action research, we visualized, created and implemented Project Based Learning in a school and studied the impact and factors leading to it. The learning from one school was then applied to a chain of schools in and around New Delhi using systems thinking. From shifting the focus from individuals for change, we moved to creating and putting in place structures to make change happen. The paper will go into the nature of PBL, its objectives and requirements for its implementation via creating unifying structures that made it possible to bring about sustainable change in the quality of teaching and learning. It will also dwell on the discipline of an educational transformation that brings about changes in the people involved. The proposed paper will document the learning from the scaling up process – for example, the impetus to drive change in a large system, while being implemented by individuals, cannot be dependent on individuals. The paper will elaborate the systems (facilitative structures and processes) that were finally developed to sustain the change process, and to ensure that energy continue to flow in learning at all levels. The paper will conclude with the documentation of authentic change visible in all stakeholders.

Keywords: Project Based Learning, School Transformation, Systems Thinking

A21   **[21]**

GOOGLE CLASSROOM: BEYOND THE TRADITIONAL SETTING

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ABSTRACT

The study aims to explore the sixteen teacher-students enrolled in the Graduate School of a university in the Province of Bulacan during the first semester of the school year 2019-2020 on using Google Classroom (GC) and evaluate its acceptability using Technology Acceptability Model (TAM). This study utilizes a mixed-method design of research using a triangulation approach. A descriptive approach was utilized to describe the technology acceptance of the respondents in the use of GC with the use of the TAM survey questionnaire. A series of interview questions were asked to detail the personal experience of the respondents on the use of GC. Consistency of use through their submission online was recorded which will serve as the dependent variable on their acceptance in the use of GC. It also finds out which factor of TAM affects their consistency of use of GC. Their responses also recorded a written interview on their perception of the application. Among the four TAM factors: perceived usefulness, perceived ease of use, behavioral intention, and active system use, the perceived usefulness significantly influences the teacher-students to use GC consistently. The use of Google Classroom for the set of respondents is new to them. The first experience of its use as a graduate school student makes them realize how their life as a teacher will become more comfortable with this technology. The teachers appreciate the help of the application in many aspects. A follow-up study of the respondents as students of graduate school to use Google Classroom in their respective classes and study their students' experiences and their implementation of Google Classroom is recommended.

Keywords: google classroom, perceived usefulness, perceived ease of use, behavioural intention, active system use, technology acceptance, technology, consistency, virtual classroom

B1 [22]

EFFECTS OF SELF-REGULATED LEARNING ON STUDENTS' ACADEMIC PERFORMANCE AND ATTITUDE TOWARDS BIOLOGY

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ABSTRACT

With the shift in the mode of academic instruction due to the global pandemic, different approaches were being utilized to continue the delivery of learning. Students' academic performance is examined by looking at this offline remote learning approach through modular delivery. The study aims to know how self-regulated learning affects students' achievement and attitude towards biology using the adaptive mode of learning instruction such as printed learning modules used in most public secondary schools in the Philippines. Students' self-regulated learning strategies and attitudes towards biology have been assessed through questionnaires and structured interviews. A mixed-method approach has been used in this study. The qualitative component focused on the structured interviews using the Self-Regulated Learning Interview Schedule (SRLIS) to evaluate self-regulated learning upon using these printed modules among students. The quantitative part looked at the correlation between self-regulated learning and the students' academic performance through their course grades. Results showed a moderately positive correlation between the relationship of the student's self-regulated learning and their attitude towards biology; meanwhile, a low positive correlation has been observed between self-regulated learning and attitude towards biology. Other contributing factors were determined that may affect their academic performance with the shift of educational instructional delivery due to the pandemic. Generated principal components influencing students' academic performance using adaptive learning instruction were primarily attributed to parents' involvement and social class dimension, along with students' intrinsic motivation, metacognitive and cognitive processes.

Keywords: Self-Regulated Learning, Academic Performance, Modular Learning, Pandemic

B2   **[23]**

THE ROLE OF SOCIAL MEDIA USAGE IN THE RELATIONSHIP BETWEEN PERSON-ORGANIZATION FIT AND ORGANIZATIONAL COMMITMENTS OF THE ALUMNI SUPERVISOR LEADERSHIP TRAINING AT THE BPS EDUCATION AND TRAINING CENTER

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ABSTRACT

One of the problems that often arise from leadership training participants at the BPS Education and Training Center is the low commitment of alumni to implement the change action plan they have made. Based on this problem, a study was conducted on the effect of person-organization suitability and use of social media on organizational commitment. The research objective was to examine whether the use of social media could mediate the relationship between person-organization fit and organizational commitment. The research was conducted using path analysis. The SPSS was used in conducting data analysis. The research sample was 156 respondents who were randomly selected from 250 alumni who participated in the 2019 and 2020 Supervisor Leadership Training at the BPS Education and Training Center. The results of the path analysis show that person-organization suitability and social media have a positive direct effect on organizational commitment, besides that the use of social media can actually mediate the relationship between person-organization suitability and organizational commitment. The implication of this finding is that increasing organizational commitment can be done, among others, by optimizing the use of social media, for example by creating organizational policies on the use of social media in the work place.

Keywords: organizational commitment, person-organization fit, use of social media

B3 [24]

THE EFFECTIVENESS OF THE USE OF TRADITIONAL MODEL OF PAT NI GAJAH, FROM TOBA BATAK ON LEARNING OUTCOMES OF BASIC MOVEMENT OF 10-12 YEARS OLD CHILDREN

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ABSTRACT

The aim of this study is to see the effectiveness of the use of traditional model of Pat Ni Gajah model from Toba Batak on learning outcomes of basic movement of 10-12 years old children. This research uses experimental method by testing the effectiveness of the use of traditional model of Pat Ni Gajah from Toba Batak with quantitative descriptive approach using True Experimental Design in the form of Pretest-Postest Control Group Design. The sample are 60 students, divided into 30 students of experimental class and 30 students of control class with closed questionnaire instrument using Likert scale. The movement skills test was adopted from the Test of Gross Motor Development. From data processing, it was obtained that the posttest mean value of experimental class = 72.5, standard deviation of 6.9221. The mean value of control class was 60.66, with standard deviation of 7.039. Thus it can be stated that the average value of experimental class is higher than control class. Based on the normality test of experimental class and control class, it is stated that they are normally distributed. Then based on the homogeneity test, it is stated that the sample comes from a homogeneous population. After the normality test and homogeneity test were carried out, it was known that t0 was 6.57. Furthermore, the t0 was consulted with t table at the significance level of 5% with df = N-2, namely 60-2 = 58. From the significant level of 5% = 2.00, thus $t_{count} > t_{table}$, namely 6.57 > 2.03. Then the null hypothesis (Ho) is rejected and the alternative hypothesis (Ha) is accepted. It can be concluded that learning outcomes of basic motion of experimental group using traditional sport game modell of Pat Ni Gajah from Toba Batak are higher or more effective than the control group using conventional learning models.

Keywords: Basic Movement, Learning Outcomes, Traditional, Sports, Model

B4   **[25]**

AN ACTION RESEARCH USING ARTS IN LEARNING UNDERGRADUATE INTRODUCTORY PHYSICS

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ABSTRACT

There is a need for teachers to always learn, unlearn, and relearn to improve their teaching practices. In this paper, educational action research study design is utilized to explore the use of arts as a tool for the assessment of learning in introductory physics courses by undergraduate non-physics majors at a Philippine university. This study makes use of the Plan-Do-Study-Act (PDSA) approach. Students were allowed to choose any type of art to show their understanding of the physics concepts learned in the course. They presented their work and critiqued their own and their classmates' work. Data were collected from class observations, written questionnaires, semi-structured interviews, and focus group discussions. All data were analyzed for patterns that may offer insights into using arts to learn physics. Findings showed students' preference for using digital arts. There is also clear evidence of learning and positive feedback and the approach exposed the changes in students' views about physics. Lastly, it revealed the potential use of arts to foster sustainable learning. These findings indicate the favorable use of arts in introductory physics course as a tool for assessment of classroom learning.

Keywords: action research, introductory physics, assessment of learning

B5 [26]

SUPERVISORS' FEEDBACK IN PROVIDING ORAL FEEDBACK ON STUDENTS' THESIS WRITING

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ABSTRACT

Oral feedback from the supervisors is something that is very necessary in the thesis writing process carried out by students. The speed of completion of the study is often related to how the feedback was carried out by the supervisors. For this reason, this research needs to be done to determine how the supervisors' feedback components provide oral feedback on students' thesis writing. This research uses a qualitative approach. The data source of this research was the supervisors of students' English thesis writing who gave feedback. The research data was in the form of words, phrases, clauses and sentences from the supervisors' expressions in providing oral feedback on students' thesis writing which contained feedback components such as writing techniques, content, instruments, methods, and titles. Data was obtained by documentation techniques. Data analysis techniques were data reduction, data display and conclusions. Data validity was obtained through participation extension, triangulation, and peer checking. The results of this study were that the supervisors' feedback components in providing oral feedback on students' thesis writing was from the most frequent to the least frequent, as follows: (1) thesis writing technique, (2) content, (3) instruments, (4) method, and (5) title. It meant that to provide oral feedback should focus on, at least, the four components found in the research.

Keywords: supervisors, oral feedback, components, thesis, writing

B6   **[27]**

AN APPLICATION OF KUHN - MUNKRES ALGORITHM
TO G.R.A.S.P.S. GROUP PERFORMANCE TASK

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ABSTRACT

Performance task is a culminating activity of the students per quarter that demonstrates their knowledge, understanding and proficiency in each subject. It yields tangible performance product that serves as an evidence of learning. On group performance tasks, a set of students collaborate to yield one authentic performance product that satisfies performance standards stated on the Curriculum Guide of the Department of Education. The Goal, Role, Audience, Situation, Product, Standards (G.R.A.S.P.S.) is anchored to emphasize context and role - playing; hence, students in a group are assigned to a specific role. This research employed a quasi – experimental control group design that aimed to optimized students' roles in a group performance task. The optimization process is carried out using the Kuhn - Munkres Algorithm, an optimization technique of optimally assigning a set of persons to a set of roles. Performance products of the groups that received an intervention using the Kuhn - Munkres Algorithm were compared to the performance products with those groups who did not receive the intervention. It was conducted to the Grade 9 students of St. Rita's College of Balingasag, Balingasag, Misamis Oriental, Philippines. The results of the analysis revealed that there is a significant difference in the scores between the control group and the experimental group. It showed that the application of the Kuhn - Munkres Algorithm on the roles of the students in a group performance task has better performance output than those students whose roles were not treated with the Kuhn - Munkres Algorithm.

Keywords: Kuhn - Munkres Algorithm, G.R.A.S.P.S. Performance Task, Assignment Problem

B7   **[28]**

THE EFFECT OF INSTRUCTION IN COLLABORATIVE EXPERIENTIAL LEARNING MODEL USING DIGITAL MARKETPLACE TO ENHANCE DIGITAL ENTREPRENEURSHIP FOR UNDERGRADUATE STUDENT

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ABSTRACT

Internet technology has transformed traditional commerce, resulting in Entrepreneurship becomes digital entrepreneurship; therefore, the learning process that encourages learners to enhance digital entrepreneurship is necessary for the 21st Century. This research aims to 1) Study academic achievement using collaborative experiential learning model 2) Compare the academic achievement using collaborative experiential learning model. The methods used for conducting the research are divide into 2 phases: 1) study the academic achievement using collaborative experiential learning model; 2) compare the academic achievement using collaborative experiential learning model. The sample groups were divided into three groups include 30 students (group A), 30 students (group B) of the experimental group, and 30 students (group C) of the control group, which were selected as cluster random sampling. Data collection by pretest posttest and data statically analyzed were mean, standard deviation (S.D.), t-test, and one-way analysis of covariance. The research results found that 1. The Learner group's academic achievement using collaborative experiential learning model was higher than Learner's group using collaborative experiential learning process and learned through the traditional instruction method. 2. The learner's group using collaborative experiential learning process, collaborative experiential learning model, and traditional instruction method have a different academic achievement. The higher academic achievement using collaborative experiential learning model shows that the instructor can use this model for instruction.

Keywords: Collaborative Experiential Learning, Digital Marketplace, Digital Entrepreneurial

B8 [29]

WHOLE LANGUAGE APPROACH IMPLEMENTATION AS A CHILD LANGUAGE LEARNING MODEL DEVELOPMENT

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ABSTRACT

This research was conducted to implement a holistic language approach (whole language approach) as a development model for students' language learning at SDN (Public School) 2 Sigli. This study uses a classroom action research method by providing action in each cycle starting from planning, acting, observing, and reflecting. This research was conducted at the Sigli 2 Public Elementary School. The subjects of this study consisted of 10 students consisting of 6 boys and 4 girls. The results of observations were processed through data analysis techniques with descriptive statistics, namely finding the percentage and average value of the improvement in Indonesian language skills obtained through observation, interviews and discussions, and document review. The results showed that the implementation of the whole language approach which includes immertion, demonstration, expectation, responsibility, employment, approximation, and feedback can improve students' reading ability. Based on the results of observations in the pre-cycle, the percentage of pre-cycle reading ability was still 30.25%. In the first cycle, after the action was carried out for 7 meetings, the percentage increased to 85.50%. Based on these data shows an increase in the percentage of reading ability from the results of pre-cycle observations by 55.25%. The implication of this research is that the whole language approach is expected to be used as the development of a language learning model at SDN 2 Sigli, because it is natural and fun and is the same age as the stages of student development.

Keywords: whole language approach, language skills, students

B9   **[30]**

EDUCATION OF LIFE AND ITS PRACTICE

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ABSTRACT

This study explains about the nature of Education of Life. The term "Education of Life" is considered as an umbrella term, which includes all the educational activities to learn about life. Nowadays, children's mental health and their morality seem to be getting weaker and weaker without realising it. Some children tend to think lightly of lives, and pay little attention to others and themselves. Then, this attitude encourages children to be often involved into anti-social behaviours, and they can enjoy from inflicting injury on a socially vulnerable person. Also, some children heavily struggle to overcome their difficulties and fail to cope with them. Consequently, the circumstances result in them taking their own life, without much respect for their own life. One of the objectives in Education of Life is to respect all lives including oneself, others, plants and animals. In the lesson of Education of life, children are encouraged to be aware of their deep connections with others and living organisms. As a result, the children gain a deeper understanding of themselves, which encourages them to respect all lives including oneself, and others. Furthermore, children are encouraged to recognise how precious their life is, and how to evaluate themselves as precious and irreplaceable individuals. By considering several educational and psychological views and theories, such as holistic education, death education and so on, this study describes several examples of unique lessons of Education of Life. These examples clearly highlight the aims of Education of Life, and also indicate how effectively Education of Life plays a role to foster children's compassion and altruistic behaviours.

Keywords: Self-esteem, Deeper understanding of oneself, Observational learning, Death education, Holistic education

B10   **[31]**

WORKING MEMORY CAPACITY AND MIND WONDERING DURING READING COMPREHENSION IN A SAMPLE OF ARABIC NATIVE SPEAKERS

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ABSTRACT

Studies examining mind wandering (MW) has increased and is notably documented in literature. The relationship between working memory capacity (WMC) and mind wandering has been a controversial issue for some times. Where Randall, Oswald, & Beier, 2014 has shown that Individual differences in working memory capacity typically predict reduced rates of mind wandering during laboratory tasks; Feng et al, 2013 revealed a positive relationship between them during low-demand task. In the present study, the authors aims to investigate how (WMC) is related to (MW) during reading six easy and difficult Arabic passages, and whether WMC is positively related to future-oriented off-task thought. The results show a positive relationship between WMC and MW while reading easy passages and a null relationship while reading difficult passages, and replicate the findings that WMC is positively related to future-oriented off-task thought.

Keywords: Mind Wandering, reading memory capacity, reading comprehension

B11   **[32]**

ROAD TO LEARN: USING THE GAMIFICATION

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ABSTRACT

As an educational innovation, gamification is comprised of game principles and elements that influence the individual's behavior, increase their motivation in the teaching-learning process, facilitate problem-solving, and motivate participation in a safe environment that permits mistakes without consequences. This raises the following question: Could gamification be the innovation that ensures students develop leadership skills and collaborative work? This document shows how using gamification in academic design generates interesting, attractive, and challenging activities for the participants. During the August-December semester of 2020, a role-play was designed and implemented where students taking two courses with little similarity helped each other in a fictitious customer-supplier working relationship where each student played a role to reach a common goal. The objective of this gamification was for the students to build themselves into service leaders in realistic scenarios, where each of the participants played a role contributing to collaborative work, problem-solving, leadership, communication and decision-making in a shared environment of commitment. The importance of this project is understanding what makes teamwork efficient at the university level and for students' discovering the value of leadership and collaborative work and how to exercise them.

Keywords: Innovative Practices, Gamification, Leadership, Teamwork, Interdisciplinary

B12   **[33]**

PERCEIVED VALUE OF THE TEC WEEK IN THE DEVELOPMENT OF TRANSVERSAL COMPETENCES

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ABSTRACT

Currently educational institutions have the challenge of graduating students not only as experts in their disciplines, but also have a series of competencies that will allow them to adapt to professional and personal environments in the future. Tecnologico de Monterrey, as part of its Tec21 Educational Model, has established Tec Week as one of the initiatives to develop competencies in its professional educational programs. The aim of the study is to determine the value of the Tec Week in the development of the transversal competences of the Tec21 Model: Self-knowledge, Wellness and Self-regulation, Innovation, Entrepreneurship, Diversity, Collaboration, Negotiation, Empathy and Citizenship. The method used is mixed, descriptive, transectional and not experimental. Two instruments of self-reflection on the competences of the Tec21 Model based on (Olivares, et al. 2019) were adapted as a pre-test (Expectations) post-test (Perceived value on the development of competences). The quantitative result uses comparison of means and is stratified according to the Expectations Confirmation Theory into: Exceeds Expectations (+ DC), Meets Expectations (C) and Below Expectations (-DC). For the qualitative analysis, text analysis is used to determine the alignment of the responses with the competence to be developed in each activity, considering three levels: low, medium, high. The competences with the greatest benefit are Self-knowledge, Wellness and Self-Regulation, Collaboration and Diversity. It is necessary continue working on the inclusion of elements of citizenship, entrepreneurship which require greater contact with the outside world. The results encourage the continued incorporation of activities such as Tec Week, which, based on Learning in Action, destroys preconceptions of education and fosters transversality without the barriers imposed by disciplines.

Keywords: transversal competences, perceived value, assessment

B13   **[34]**

THE RESIDENT AS EDUCATOR: MEDICAL STUDENTS' PERCEPTION OF A ONE-WEEK ONLINE PATHOLOGY ROTATION TAUGHT BY RESIDENTS

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ABSTRACT

COVID-19 pandemic forced many changes, including how clinical rotations take place. Reducing face-to-face contact transformed a considerable amount of the activities to distance settings. The residents on the pathology program have a crucial role on the undergraduate medical students learning process. To recreate the regular face-to-face contact where members of this learning community would interact, an online one-week rotation on oncologic pathology was designed. The purpose of this study was to explore the perception of undergraduate students of the role of residents as educators on the pathology rotation taught by residents. A quantitative approach considered a cross-sectional and descriptive design to study the phenomenon. The sample consisted of 55 6th-year medical students from a private school in Mexico where the online rotation was taught by residents from July to December 2020. The instrument consisted on a 27-item survey distributed online. Although participants stated they were satisfied with the teaching competence of the residents (mean 4.54), there seems to be a disagreement that the practical part of the sessions, where microscopy techniques are used, should be taught by them (mean 3.84). Students highlighted that they felt more comfortable and relaxed, as well as more confident in asking questions with residents than they did with medical specialists. The resident-student interaction is an enriching learning opportunity for both. Near peer contact found in the residents' role as educators still needs to be formalized in the curriculum but an initial adaptation done during the pandemic might show its contribution.

Keywords: higher education, educational innovation, medical education, residents, educators' role

B14   **[35]**

LEARNING STYLES AND THEIR RELATIONSHIP TO STRESS MANAGEMENT STYLES IN UNIVERSITY STUDENTS

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ABSTRACT

The present study seeks to establish: what is the relationship between variables, learning styles and coping styles of stress in students of the Faculty of Chemical Engineering of the National University of Callao? The background for this research is national and international; the purpose was to determine the relationship between learning styles and coping styles of stress in students; at the methodological level, it is based on a descriptive correlational research; the sample was made based on the Crombach's Alpha coefficient technique, obtaining the number of 273 university students; Carver's stress coping modes questionnaire and Honey and Alonso's learning styles questionnaire were used, to later organize the data and systematize, through the inferential statistical analysis, using the statisticians for the hypothesis testing: Pearson's Correlation, Test of Homogeneity of Variances; the validation of the instruments was established through the coefficient of Crombach's Alpha having a reliability index of 0.70; the results indicate a significant relationship between the learning styles and the styles of coping with stress in the students of the Faculty of Chemical Engineering of the National University of Callao; it was concluded at a general level, that there is a significant relationship between the variables: learning styles and styles of coping with stress in the students, there is also a significant relationship between the dimensions of both variables.

Keywords: Styles, learning, coping, stress

B15   **[36]**

METHODOLOGY TO DEVELOP CRITICAL THINKING COMPETENCE PROMOTING KNOWLEDGE THROUGH SOCIAL NETWORKS.

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ABSTRACT

In the age of information and data analysis, students do not always have the disciplinary and / or transversal competences, nor do they always have the correct strategies to select content and arguments that reinforce the construction of their disciplinary criteria, even though the tools to achieve it are at their fingertips. In the new educational model of the Tecnológico de Monterrey, a priority is to contribute to the development of critical thinking based on the students' personal motivations. As a link between the knowledge acquired and their context, an alternative that allows the above is to promote the dissemination of collective knowledge in social networks (SN). In the present work, a methodology that allows to combine the knowledge acquired in the classroom with the use of SN, is proposed, in order to develop critical thinking in students. The methodology includes 3 phases: i) Students develop content related to the course topics, ii) Students share this content on social media, iii) Teachers monitor the impact of publications. This process was successfully implemented during four academic terms in different subjects of the five Professional Level schools. It was observed, based on entry and exit surveys, that the appropriate and guided use of the different SN's positively modifies the student's perception of the content of the subjects and the teaching of the class, since it allows them to relate academic topics with social reality, thus forming their own and responsible criterion on the published content.

Keywords: Social media, critical thinking, innovative education

B16   **[37]**

RESEARCH ON TRAINING SYSTEM OF PRODUCT DESIGN MAJOR BASED ON NEW DESIGN REQUIREMENTS

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ABSTRACT

With the development of society, the industrial structure is constantly transforming and upgrading, and the characteristics of design are also changing. Therefore, the requirements of the design industry for employees are inevitably changed. As the workers engaged in design education, we should adjust the training system of the students majoring in design according to the latest situation of the industry, so that the students can adapt to the requirements of the new era for designers. By analyzing the characteristics of local economy and current design, this paper studies the latest requirements of enterprises for designers. From the perspective of system theory, this paper makes an in-depth analysis of the training mode of the existing product design major students, so as to establish the ability requirements of product design specialty, and then form a systematic training system, and form corresponding curriculum modules. Finally, taking the product design major of Zhuhai College of Beijing Institute of Technology as an example, the characteristics of the training system of product design specialty and some specific implementation measures verified by practice are elaborated.

Key words: design demand change, product design major, student training system

B17   **[38]**

DESIGN GUIDELINES FOR INTERACTIVE, INDIGENOUS KNOWLEDGE EXHIBITS

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ABSTRACT

Science center interactive exhibits has come a long way in assisting learners and visitors in understanding key concepts in Science. However, despite their success, the culture of Science, still evades understanding for most people. When visiting Science centers, visitors still experience cognitive conflicts arriving from different cultural contexts. Although, this is true for most visitors, the problem is more acute for especially third world countries. Currently, the design of interactive science center exhibits does not include guidelines for culturally different sets of visitors. Exhibits are generic in design and outlook. This paper reports on the process of isolating a set of design guidelines for interactive science center exhibits that would serve as border-crossing environments for visitors to transition from their safe real-life environment to understanding the culture of Science. A series of definitions about indigenous knowledge was collected, trying to find defining dimensions. A collection of 7 dimensions were found. At the same time, a list of successful interactive design guidelines was constructed around: visitor behavior; knowledge acquisition, affective measures and physical appearance. It is vital to note that when looking for corresponding dimensional elements between indigenous knowledge and successful exhibit design guidelines, it was not supplanted onto one another in the matrix but done in such a way that the two could be in natural co-evolution. Such corresponding elements were found between the dimensions of indigenous knowledge and exhibits characteristics mainly in the epistemology, ontology, defining characteristics and anchored in dimensions. A set of design guidelines emerged from the matrix that would be of use to science centers throughout the world but more especially third world countries with indigenous populations.

Keywords: culture, indigenous knowledge, science center, interactive exhibit, dimensions, exhibit design, cultural border-crossing

B18   **[39]**

USE OF THE TENSORFLOW FRAMEWORK TO SUPPORT EDUCATIONAL PROBLEMS: A SYSTEMATIC MAPPING

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ABSTRACT

The Google framework called TensorFlow has been widely used for decision making in several areas, including Education. Predicting student risk and optimizing a student's learning path are, for example, two traditional educational problems that have been explored for years but there are a myriad of different data mining approaches involved. This paper's goal is to illustrate the results of a systematic mapping process conducted on educational data mining studies using the TensorFlow framework. Furthermore, this paper will assist in illustrating what kind of problems to focus on (which can paradoxically be seen as opportunities), identify, demonstrate, and catalogue all the academic studies that have discussed it, and the approaches leveraged (neural network, decision tree, naïve Bayes, natural language processing, and so on). The mapping process followed 5 phases with rigor, returning a set of 32 relevant papers in the study area with detailed information related to the research questions. The outcome of this systematic study will be of benefit to academic managers, researchers, and students who use this framework as support to solve educational problems.

Keywords: systematic mapping, Educational problems, TensorFlow, data mining

B19   **[40]**

THE PROMISE OF VERBAL DISCIPLINE AS EFFECTIVE ALTERNATIVE TO CORPORAL PUNISHMENT: A NEW RESEARCH AGENDA

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ABSTRACT

This paper reports on an on-going research exploring the effectiveness of verbal discipline in dealing with classroom misconduct in the Foundation Phase classroom. Verbal discipline is increasingly gaining prominence as a strategy for dealing with classroom misconduct in South African schools. While preliminary literature review reveals that teachers rely on verbal discipline on a daily basis to discipline learners, however, there seems to be a dearth of empirical evidence that specifically reports on what teachers mean by verbal discipline, how they apply it and the effectiveness in dealing with classroom misconduct. The study is anchored on Symbolic Interactionism theory within the context of qualitative research approach and the phenomenological research design. These will provide the framework to describe the lived experiences of participating teachers on the effectiveness of verbal discipline in dealing with learner misconduct in selected schools. The major contribution of this study is that the empirical evidence from it will help bridge this perceived gap in knowledge about the teacher use of verbal discipline and its effectiveness in handling classroom misconduct. Moreover, such empirical knowledge will implicate both policy and practice in the implementation verbal discipline as aspects of alternatives to corporal punishment.

Keywords: Classroom discipline, Misconduct, Verbal discipline

C1   **[41]**

CASE METHOD IN EFL? WHY WE SHOULD BOTHER

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ABSTRACT

The paper examines the use of case method in teaching English as a Foreign Language to students of a private business university in Japan. It presents a case study detailing teaching business English to students with various levels of English proficiency. The paper discusses the necessity of shifting the teaching methodology from a strictly textbook-based approach, which focuses mostly on input and passive learning, to a hands-on, problem-based method which empowers the learners and gives them a voice. The case method teaches generic skills such as communication, critical thinking, analysis and synthesis. Moreover, the use of learning management systems (LMSs) is beneficial for developing competences such as study skills, information retrieval and processing, and language production. The study has found the case method approach to be beneficial for two main reasons. First, it maximizes student employability by nurturing competences sought after in business, inasmuch as in recent years post-industrial Japan has been facing a crisis of innovative power, and is in dire need of innovation or research skills. Moreover, as in the past decades an increasing number of Japanese companies have adopted English as a common office language, good English communication skills have become critical for securing employment or promotion. Second, a "learning by doing" approach has been found to be beneficial for improving students' motivation by encouraging a more inclusive, cooperative learning atmosphere, both inside and outside of the classroom, affording the learners opportunities to actively experience and shape their process of learning, instead of merely witnessing it.

Keywords: EFL, English for business, case method

C2 [42]

IMPACT OF STAKEHOLDERS ON IMPROVING ENGLISH IN SCHOOLS: A STRATEGIC MOVE FOR SOCIO-ECONOMIC DEVELOPMENT IN SRI LANKA

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ABSTRACT

Empowering learners in a digital world is a strategic move towards socio-economic development of a country. Thus, improving English in schools of developing countries, where English is used as a second language, has become a critical need. This dire need has been highlighted with its strategic linking to the improvement of socio-economic development of countries, through the local and international job market, especially for youth employment in developing countries. Sri Lanka, a developing nation in the middle-income category is of no exception. Improving English in schools is vital to enhance the English competence of school leavers and graduates, to produce varied skilled workforce of global quality who could contribute towards the socio-economic development of the country. Studies on the impact of stakeholders on improving English in schools towards Socio-economic development of Sri Lanka had received poor attention of scholars. Purpose of this study is to hypothetically explore the role of stakeholders: teachers, students and parents on improving English in schools, as a strategic move for socio-economic development in Sri Lanka. The study reviewed reliable secondary data published in scholarly research articles, policy documents in the local education sector, government departments and institutions of Sri Lanka, local and global research reports from reputed organizations, connected with the above purpose. A five-construct conceptual model was developed, based on Hypothetico-deductive' approach. Results revealed the teachers, students and parents positively impact on improving English in schools, towards the socio-economic development of Sri Lanka. Study presents original insights on the above relationship, based on theoretical and empirical evidence of extant literature. It presents directions to researchers on further study, implications for government of Sri Lanka, Policy makers and donor agencies.

Keywords: parent, student, teacher, socio-economic development, Sri Lanka

C3 [43]

ENVIRONMENTAL JUSTICE: PERSPECTIVE OF LOCAL COMMUNITIES IN THE SOEHARTO FOREST AREA

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ABSTRACT

Excessive use of forests causes disruption to the physical condition and sustainability of forest functions. Moreover, it is not only the forest area but also the local community in it. The correct application of environmental justice will be the key to future solutions. This study aims to describe an appropriate model of forest area for local communities in the Soeharto forest area. The research method used is a phenomenological qualitative approach involving the local community. The findings of biodiversity problems apart from its decline, lack of participation, land conflicts, and conservation area benefits for local communities are low in conservation due to the absence of any promised conservation success claims, especially from the Government. Promote conservation based on traditional knowledge and local wisdom as an approach and complement to the conservation of living natural resources. Local communities consisting of various ethnic groups are conservators who need to get a touch of guidance so that by themselves they can conserve the area without neglecting local wisdom. Research and development of forest rehabilitation are expected to be able to answer forestry problems in the future and become the basis for policymaking in forestry development. Thus, forestry management is truly sustainable, efficient and responsible for the welfare of the community.

Keywords: Environmental Justice, Local Wisdom, Local Communities, Soeharto Forest Area.

C4   **[44]**

SUPERVISION OF SCHOOL RESOURCES AMONG SCHOOL PRINCIPALS: ITS CORRELATION TO LEARNERS' ACADEMIC ACHIEVEMENT IN SELECTED PUBLIC SCHOOLS IN VICTORIA DISTRICT

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ABSTRACT

The level of resources management of school heads was assessed through the different areas namely, community linkages, equipment, facilities, faculty and instruction and its relation to the academic performance of the students. The level of resources management of school heads in Victoria District was found out to be outstanding in all areas namely: community linkages, equipment; facilities; faculty; and instruction. The level of academic performance of the pupils of Victoria District was assessed through their Quarterly Examinations of all the pupils of seventeen (17) public schools and was found out that their academic performance less satisfactory. The Pearson-r value indicates also that Resources Management of School Heads is a good indicator to the Academic Achievement of the pupils in terms of Quarterly Examination and has a positive significant correlation relationship. The action plan to improve the academic performance of pupils was developed based on the findings of the studies. The hypothesis is not sustained since there is a positive significant correlation between the level of resources management of school heads and the academic performance of pupils. It implies that as the resources management skills of school heads increases the performance of pupils also improves. Therefore, the null hypothesis stating that there is no significant relationship in between the level of resources management of Principal to the academic achievement of the pupils in Victoria District is rejected. It is recommended that school heads may sustain the quality of managing the resources especially in facilities and instruction and intensify observation of classes and conduct school learning action cell focusing on improving the performance of the students through the use of different strategies and approaches in teaching

Keywords: resources, supervision, stakeholders, school-community, academic achievement

C5   **[45]**

THE IMPACT OF THE FAMILY RELATIONSHIP ON CHILDREN'S SPIRITUALITY IN TANGERANG, INDONESIA

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ABSTRACT

This study was conducted to see the impact of the family relationship on the children's spirituality in Tangerang, Indonesia. Family relationship especially in this pandemic Covid-19 situation where every family spent more time at home became very important for the children's spiritual growth as God asked Christian parents to teach them in the Lord (Deuteronomy 6:7). The purposes of this study were to see the children's background characteristics, their family relationships, and religious backgrounds. Descriptive research using a Cross-Sectional Survey Design was applied. A questionnaire with 13 questions was given to 114 children of three Sunday Schools in Tangerang. The results on the background characteristics were 96% of children had complete parents and 93% of them lived with their complete parents. The family relationships were described by 89% of children communicated with their mothers, but only 86% communicated with their fathers. 100% of children loved their parents, but only 96% loved their homes. The religious backgrounds informed that 94% of mothers attended church every week, but only 92% of fathers attended church every week. However, only 77% of children read the Bible with their parents regularly. At last, 93% of children believed that people after death was in heaven with Jesus. The conclusion was the relationship between the parents and children had an impact on the children's spiritual growth. Children's spirituality grew maximally when they had a good relationship with their complete parents who attended church and read the Bible with their children regularly.

Keywords: Family, Spirituality, Children

C6   **[46]**

LEVEL OF SATISFACTION OF PRE-SERVICE TEACHERS IN THEIR OFF-CAMPUS PRACTICE TEACHING EXPERIENCES

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ABSTRACT

The study attempted to determine the extent of satisfaction of the student with regards to the services given by the student teaching office of the Bulacan State University Hagonoy Campus and their experience in their off-campus practice teaching during the academic year 2017-2018. The study made used of descriptive-survey method for the sample of 56. A questionnaire with a Five-point Likert scale was asked for the student teachers for them to complete; the data gathered were analyzed and treated statistically. Weighted mean was computed and determined the significant difference of the level of satisfaction of the students to the services given by the student teaching office and the level of satisfaction in their internship experiences using the z-test. Both the level of level of satisfaction to the services given by the student teaching office and the level of satisfaction to their internship experiences both registered a very much satisfaction on the part of the respondents. There is no significant difference between the level of level of satisfaction to the services given by the student teaching office and the level of satisfaction to their internship experiences both registered a very much satisfaction on the part of the respondents with a computed t-value of 0.218.

Keywords: Internship, Off-campus Practice Teaching, Cooperating School/Teacher

C7 [47]

SPORTS CELEBRITY IDOLATR TOWARDS IMPROVED SPORTS INVOLVEMENT OF CHINESE HIGH SCHOOL STUDENTS

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ABSTRACT

This dissertation sought to determine the level of sports celebrity idolatry as well as the level of sports involvement of the Chinese high school students. It further sought to determine the influence of sports celebrity idolatry to sports involvement of the high school students. The study was conducted from March 2020 to April 2020 in the randomly selected students from randomly selected schools from Beijing, Shanghai, Chengdu and Guangzhou cities of China. It made use of quantitative analysis of the data gathered through survey that was formulated by the researcher, content validated by experts, and underwent trial by respondents not included in the sample of the study. Using statistical and data analysis tools such as frequency count, percentage, mean, standard deviation, t-test for independent data, Pearson Product-Moment correlation coefficient, the author found out the following: first, grade level is a factor in determining the level of sports celebrity idolatry; second, both grade level and gender are factors in determining the level of sports involvement, and lastly, there is a significant low positive (direct) correlation between sports celebrity idolatry level and sports involvement level.

Keywords: Sports Celebrity Idolatry, Sport Involvement, Chinese High School Student

C8   **[48]**

FACILITATING ACCOMMODATION OF LEARNERS WITH DISABILITIES IN SUMMATIVE ASSESSMENT OF LITERACY IN TANZANIA THROUGH MOBILE APPLICATION

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ABSTRACT

Summative Assessment of Language Literacy in Tanzania is administered in the form of a Paper-and-pencil assessment. This kind of assessment hardly accommodates learners with disabilities such as visually impaired ones because it does not allow adjustment of the font size to suit the reader's needs. As a result, such students might end up being judged as failures in such assessment while their failure is attributed to the nature of assessment rather than their lack of competence in language literacy. Therefore, to improve the existing situation, the present study investigated the contribution of mobile applications to accommodating learners with diverse needs in taking language literacy assessments. We adopted qualitative action research using interviews, focus group discussion, observation, and reflection as data collection methods from 10 standard VII students and 1 language teacher. We analyzed data deductively through coding, categorizing, and relating data to available conceptual constructs. Findings show that mobile application makes language assessment more accommodating because of its flexibility in terms of presentation, response delivery, and locations and time given. The study calls for the National examination Council in Tanzania to consider the integration of technology in language literacy assessment to maximize the learning opportunities for learners with disabilities. Also, teacher education should empower teachers on the use of technology in their classrooms.

Keywords: Language literacy, Mobile application, assessment, accommodation

C9   [49]

SCHOOL LEADERS' RESILIENCE AMIDST PANDEMIC OF VICTORIA DISTRICT, LAGUNA

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ABSTRACT

This study focused on resiliency of school leaders in Victoria District, Laguna, Philippines amidst pandemic. Seventeen elementary and secondary principals became part of the study by undergoing survey questions pertaining to the (1) promotion of community cohesiveness, (2) sustained communication, (3) attention to mental and psychosocial health and, (4) welcoming feedback. The author made use of qualitative and quantitative techniques in doing research as responses to survey questions were recorded, sorted, analyzed and, interpreted. It was found out that school heads of Victoria District have very high resiliency in terms of promotion of community cohesiveness, sustained communication, attention to mental and psychosocial health, and welcoming feedback. School heads promote community cohesion by engaging families and stakeholders in all the school programs and by using various formats during distance learning. Some schools provided unstructured opportunities for small-group connections. To sustain communication among the internal and external stakeholders of the school community, school head gave clear and direct communication using different platforms based on DepEd Orders and memorandums. To combat epidemic, school heads conducted orientations, meetings and webinars for the entire community through social media platforms about mental and psychosocial wellness because when schools clearly prioritized attention to mental health, it greatly enhanced feelings among students and adults that they were genuinely valued. Welcoming feedback was one of the top priorities of school heads to receive a clear response from the community, also both teachers and learners, as they share their feelings and receive specific feedback on what was going well at school and what might be improved. Recommendations to school heads were laid down to sustain their resiliency at all cost.

Keywords: resilient, community, mental, psychosocial, health, feedback

C10 [50]

JAPANESE CHILDREN'S PERSPECTIVES ON THE EXPERIENCES OF BEING PEER SUPPORTERS

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ABSTRACT

This study explores the perspectives of young peer supporters in a secondary school in Japan. Peer support is an approach that builds on the helpfulness and altruism characteristic of friendship by extending it beyond friendship to the wider peer group. In this research, quantitative methods had been used to gather more in-depth information about a phenomenon. Participants aged 13 to 14, were drawn from s secondary school in Osaka, Japan. Semi-structured interviews were conducted, and data was analysed using Thematic Analysis, aiming to explore their lived experiences of being peer supporters. Four main themes emerged from the peer supporters' lived experiences: 1) Disconnection between training and practice, 2) Perceived generation gap, 3) Self-improvement, and 4) Cultural mismatch. These specific themes greatly assisted to explore the unrevealed children's views, some critical issues of peer support practices in Japan and some confirmed the findings of quantitative studies (prior studies). A number of the findings were novel and also these results will provide opportunity to explore further children's understandings of peer support programmes in school. In conclusion, some practical recommendations for the peer support activities are suggested in terms of the findings.

Keywords: Peer support, Bullying, Counselling skills, Social skills, Japanese style peer support

C11   **[51]**

GOAL-ORIENTED BEHAVIOURS, INTRINSIC STUDY MOTIVATION AND STUDENT PERFORMANCE: EVIDENCE FROM BUSINESS SCHOOLS IN VIETNAM

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ABSTRACT

This study examines relationships between goal-oriented behaviors, intrinsic motivation and four aspects of student performance, namely, academic achievement, creative-problem solving, system thinking and teamwork in the Vietnamese context of higher education. Data were collected via online questionnaire survey on 751 students, which was analyzed by Partial Least Square-Structural Equation Modelling. The results show that students with high goal-oriented behaviors and strong study motivation outperform their peers on creative problem-solving, system thinking and teamwork. Surprisingly, students with strong intrinsic study motivation tend to achieve better academic performance, yet those with high goal-oriented behaviors do not. Intrinsic study motivation also mediates the relationships between goal-oriented behaviors and four aspects of student performance. The study finds that goal-oriented behaviors and intrinsic study motivation are more likely to result in better creative problem-solving, system thinking, and teamwork rather than better academic achievement. The research model highlights the other dimensions of student performance out of academic achievement as having developed in prior studies. The empirical findings bring insights into antecedents of student performance which are implications for lecturers, school managers and students on the enhancement of teaching and learning.

Keywords: Goal-oriented behaviors, intrinsic study motivation and student performance

C12   **[52]**

IMPLEMENTATION OF REINTEGRATION STAGE OF WOMEN AND CHILDREN INVOLVED IN ACTS OF TERRORISM, A DERADICALIZATION OF WOMEN AND MINORS IN HANDAYANI REHABILITATION CENTRE

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ABSTRACT

The rehabilitation of women and children in Indonesia exposed to terrorism is a pilot project initiated by the Handayani Social Rehabilitation Centre in Jakarta. Initially established as a social rehabilitation centre for children which operates under the supervision of the Ministry of Social Affairs of the Republic of Indonesia, Handayani became the focal point for rehabilitation of Indonesian women and children returnees from ISIS held territories in Iraq and Syria since 2016 and is intended as a role model for providing rehabilitative care within the context of deradicalization. This study examines the implementation of the reintegration process as the final stage of deradicalization before the social rehabilitation residents is reintegrated to society and able to fully function as citizens. This study utilizes the qualitative research method consisting of in-depth interviews with relevant subjects and triangulations of information to check the validity. The findings from this research reveals gaps in the stages of deradicalization starting from the identification stage to the reintegration stage. The Implementation and Cooperation Theory is used to identify the gaps at the reintegration stage. Limited communication, resources – in the form of financial and human resource capacity -, unclear disposition and fragmented bureaucratic structures were identified as major obstacles that hinder the implementation of the reintegration stage. This is shown through the collaboration observed between the main government stakeholders involved in the reintegration stage, namely the National Counter-Terrorism Agency, the Ministry of Home Affairs, and the Handayani Rehabilitation Centre under the supervision of the Ministry of Social Affairs which displays a pattern of shallow and intermittent cooperation.

Keywords: Deradicalization, Reintegration, Implementation, Women and Childrens, Terrorism Act

C13   **[53]**

PRINCIPAL'S PROFESSIONAL DEVELOPMENT AS A PANACEA FOR EFFECTIVE SCHOOL LEADERSHIP

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ABSTRACT

Over the years, school principals have not been given adequate attention based on their professional learning. Most states and districts have focused more on teacher's professional development rather than principals (Rowland 2017). Most principals do not possess the leadership skills needed for effective leadership practices, and this is as a result of not having access or opportunities for professional development. The COVID-19 pandemic has altered the norm in the schooling system around the world in both positive and negative ways. Countries that have successfully navigated the crisis have generally implemented policies which will accelerate these transformations in the direction of sustainability. ICTs are pivotal in managing the school system at this time of global pandemic. However, school principals in Nigeria do not possess adequate digital literacy or ICT skills needed to manage the challenges facing the school system during COVID -19 era. While an increasing range of literature focuses on particular aspects of CPD for teacher, there is a paucity of literature addressing the spectrum of CPD models for school principals. This study adopts a mixed method research to explore what professional development programmes are organized for school principals in Nigeria and to what extent do these professional learning influence their leadership practices. A random sampling method was used to select 100 principals from both public and private secondary schools in Anambra State, Nigeria. Questionnaires were administered to the participants, and ten principals were interviewed from the total population of study. The study also explores what professional development programs school principal's need; to build effective staff, advance student learning and improve school leadership. The findings provides insights on the areas of improvement needed for more effective professional development and also recommends professional development activities that will enhance the leadership skills that principals need to guide school reform and reach higher standards of students achievement.

Keywords: professional development, school effectiveness, leadership, ICT, school principals

C14   **[54]**

CHARACTER-BASED LITERACY REINFORCEMENT IN ELEMENTARY SCHOOL

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ABSTRACT

Literacy is a skill which needs prime attention from Indonesian government, especially in the elementary level due to its importance to support life of students to cope with various global challenges. In addition, the research result shows that Indonesian people literacy level is still low, especially for students in elementary level. Beside literacy, character is one of the 21 century skills which is agreed in World Economy Forum 2021. In line with that condition, the effective Indonesian education curriculum demands an emphasis on character building which is constributed from the entire learning process and subjects. To create literate society with good character, we need literacy reinforcement and character education, especially in the elementary level. Integrated Islam Elementary School (SDIT) Insan Sejahtera in Indonesia has given us an example of how basic literacy reinforcement is comprehensively integrated with character education. This research is aimed to investigate how the school conducts character-based basic literacy reinforcement and internalization as well as the contribution towards academic achievement and positive character development of the students. This research implements qualitative method with phenomenology approach. The data collection techniques are interview, observation and documentation study. Literacy reinforcement and character education are possibly conducted through goverment policy in the form of education unit level program. The implementation and internalization of the program can be conducted by education units with the improvement of parents participation as well as the environment.

Keywords: literacy reinforcement, character education, basic literacy

C15   **[55]**

SOCIAL MEDIA RESPONSIBILITY: FACTORS INFLUENCING ACADEMIC PERFORMANCE FOR COLLABORATIVE LEARNING AMONG THE COLLEGE LEARNING STUDENT

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ABSTRACT

Social media has modified the manner we tend to live in some ways. It cannot be regarded as a means of spending time because it has introduced the biggest shift since the times of the Industrial Revolution. Indeed, social media has transformed people's lifestyles and has offered a new pattern of social interaction. This study aims to explore the use of Facebook as a collaborative platform among the college learning students of the UST-IICS. Researching the factors that influence the academic performance of the undergraduates using social media as a venue for collaborative learning came up to a different study. Some may seem very helpful but there are situations that produce a negative outcome. This paper reassesses some descriptions and confers the social software concept. Since this research focused more on the usage of social media, the Honeycomb model for social media was adopted and applied it to the number one social media all over the world, Facebook. This research study is a qualitative case study that can benefit us to recognize the motivations and manners of people, create original insights and ideas, and formulate better research problems and research questions. Based on the study made, many students have positive insights towards the use of social media as a platform for collaborative learning, but there are some who are pessimistic about it. This study has revealed that there is a significant difference between male and female students' responses concerning the right attitude to use social media sites effectively.

Keywords: Academic Performance, Collaborative Learning, Facebook, Honeycomb Model, Social Media

C16   **[56]**

THE EFFECT OF TRANSFORMATIONAL LEADERSHIP ON ORGANIZATIONAL AGILITY: WORK ENGAGEMENT AS MEDIATION

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ABSTRACT

This study aims to produce conceptual and empirical models the influence of transformational leadership, organization culture, and Quality of Work Life (QWL) on organization agility through mediating engagement. The quantitative method with Structural Equation Modeling (SEM) for analysis was used in this study. The questionnaires were sent to 380 millennial-age respondents which are the employee of Japanese foreign capital companies in several industrial areas in West Java. The results of this study are (1) there is a positive influence of transformational leadership on work engagement, (2) there is a positive influence of organizational culture on work engagement (3) there is a positive influence of quality of work life on work engagement (4) there is a positive influence Transformational leadership on organizational agility (5) there is a positive influence on organizational culture on organizational agility, (6) there is a positive influence on quality of work life with organizational agility, (7) there is a positive influence on work engagement on organizational agility, (8) positive influence of transformational leadership on organizational agility through work engagement, (9) there is a positive influence of organizational culture on organizational agility through work engagement (10) there is a positive influence of quality of work life on organizational agility through work engagement. Transformational leadership has the greatest influence on organizational agility through work engagement. These findings indicate that work engagement as an intervening variable can increase the effect of transformational leadership on organizational agility. This finding is the concern of Japanese PMA companies in West Java, Indonesia. In increasing organizational agility, it is necessary to maintain individualize influence by paying attention to employee work engagement.

Keywords: transformational leadership, organizational culture, work engagement, organizational agility

C17   **[57]**

THE IMAGE OF WOMEN IN THE BEAUTIFUL NOVEL LUKA KARYA EKA KURNIAWAN REVIEWED FROM THE VALUE OF SOCIAL: A STUDY OF LITERARY SOCIOLOGY

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ABSTRACT

Literary works reflect the life and development of society which is the author's expression of the reality of life based on the activities of life he obtained in society, because literature is born from the process of literary anxiety over the condition of society. This research was based on a novel by Eka Kurniawan, a literary sociology study that aims to gain a deep understanding of women's image based on social values. The research approach uses a qualitative approach with content analysis method, where the data that appears in the form of words and not a series of numbers. Data is collected through observations, interviews, document essences, and tapes. Object research is determined purposively, namely based on: novel popularity, author's productivity, and viscosity of depiction of female imagery in the novel "Cantik itu Luka" by Eka Kurniawan. The results showed that it leads to the components of Kluckhohn's social values, namely the interaction of women's relationships with their lives, women's relationship with nature, women's relationships with their work, and women's relationships with other human beings. The Beautiful Novel Luka is a novel about women, which hints at a very slick lesson about a woman's life about her joys and sorrows.

Keywords: Image of Women, Beautiful Wounds, Social Value

C19   **[58]**

EFFECT OF ATTITUDE TO IMPROVE JOB ACHIEVEMENT OF GRADUATED AT CHRDCA

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ABSTRACT

Improving the quality of human resources is a top priority for educational institutions, both formal and non-formal, in developing their abilities and skills. Vocational education has a very strategic role in realizing a skilled workforce. On the other hand, employers expect new employees to have more knowledge, more skills, and will be more intrinsically motivated. However, current conditions indicate a lack of skills possessed by most of the new workforce. The purpose of this study was to analyze the influence of Attitude in improving Job Achievement. This research uses correlational research with a quantitative approach. Population and samples in this study are user agencies graduates of Centre of HRD for Civil Aviation as many as eight universities as 177 respondents. Data collection in this study is by disseminating questionnaires—analysis techniques in this research that is with the analysis of Partial Least Square (PLS). The results of this study proved that Attitude has a significant effect on Job Achievement. This shows that the better a person's attitude will help increase job achievement. In other words, job achievement can be increased through efforts to improve a better attitude.

Keywords: Attitude, Job Achievement

C20   **[59]**

THE ROLE OF HUMAN CAPITAL ON THE CORRUPTION ERADICATION COMMISSION (PHENOMENOLOGY STUDY)

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ABSTRACT

The Purpose this research to the understand about The Role of Human Capital on Corruption Eradication Commission (KPK), which accidents phenomenon in Corruption Eradication on institution of goverment, with strategic steps; intellectual capital strategy, social capital strategy, organizational capital strategy and prevention and abolition strategy, to actualizing enforcement of goverment clear and free of corruption and giving contribution and supporting on institution KPK. This research uses a qualitative approach with a phenomenology study method and uses quota samples. The research population is a employees in Corruption Eradication Commission of institute of Republic of Indonesia and Institution of Indonesian Corruption Watch. Data obtained based on observations, review, interview and then analyzing with review, data secunder and emperic by triangulation. The results that has been achieved in this research, the role of human capital in strengthen corruption abolition activities was strongly needed to deal with prevention and corruption abolishment in Corruption Eradication Commission. Human Capital have an efficience and efecitive role in enhance intellectual quality, social sensitiveness and institution development. The core business and function of KPK is to embodied good, clear and clean government, that free of corruption, colution and nepotisme. The focus strategic planning and operational plan are implementation of the basic approach, those are intellectual capital strategic, social capital strategic and organizational capital strategic and prevention and oblishment strategic in KPK.

Keywords: Human Capital, intellectual capital, social capital, organizational capital and prevention and abolition strategy

C21   **[60]**

INFLUENCE OF LEADERSHIP STYLE, WORK CULTURE, AND WORK SATISFACTION ON EMPLOYEE ENGAGEMENT IN STATE CIVIL APPARATUS

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ABSTRACT

This study aims to describe the Management of Human Resources, especially the Management of the State Civil Apparatus (ASN) in the Ministry of Defense of the Republic of Indonesia, through a description of the influence of leadership style, work culture, and job satisfaction on employee engagement. This research used path analysis. Data collection was carried out by survey using a questionnaire with a proportional sampling technique. This research worked together with 37 people from the Directorate General of Defense Forces, and 38 of them taken from the Directorate General of Defense Strategy (57.4%). Data were analyzed using the Structural Equation Modeling (SEM) formula. The results of this study indicate (1) the leadership style has a direct positive effect on employee engagement. (2) Work culture has an immediate positive effect on Employee Engagement. (3) Job satisfaction has a direct positive effect on Employee Engagement. (4) Leadership style has a direct positive effect on job satisfaction. (5) Work culture has a direct positive effect on job satisfaction. (6) Leadership style has a direct positive effect on work culture. (7) Leadership style has a positive indirect effect on Employee Engagement through work culture. (8) Leadership style has an indirect effect on Employee Engagement through job satisfaction and (9) Work culture has a positive indirect effect on employee engagement through job satisfaction. Based on the results of the research it was disseminated that the high and low involvement of employees of the Ministry of Defense employees was determined by their leadership style, work culture and job satisfaction. These findings suggest prioritize a transformational leadership style that can foster a positive work culture and increase subordinate job satisfaction and implement it at various levels of leadership positions within the Ministry of Defense so that employee involvement can grow across all units and organizational levels of the Ministry of Defense.

Keywords: leadership style, work culture, job satisfaction, employee engagement, the ministry of defense

C22   **[61]**

THE EFFECT OF COMPETENCY, LEARNING ORGANIZATION, DECISION MAKING ABILITY ON MANAGERS' PERFORMANCE OF THE COURSE AND TRAINING INSTITUTIONS IN JAVA

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ABSTRACT

The managers' of course and training institutions have significant role in managing their organizations. The success of these institutions is affected by their managers' performance. However, most of them have not had optimum performance yet as well as their competency, their knowledge of learning organization, and their decision making ability. Hence, these encouraged to conduct a study of those variables. This study aims to analyze the effect of competency, learning organization, and decision-making abilities on managers' performance of course and training institutions in Java (Banten, Jakarta, West Java, Central Java, Yogyakarta, and East Java). This research is a quantitative study that uses the multiple regression method. Respondents of this study were 377 managers of course and training institutions in Java. The results of this study indicate that 1) competency has significant effect on performance; 2) the learning organization has significant effect on performance; 3) decision making has significant effect on performance; 4) competency, learning organization, and decision making ability altogether have significant effect on performance. Furthermore, it can be stated that some factors such as competency, learning organization, and decision making ability should be concerned since they are important aspects in improving the managers' performance of course and training institutions. Hence, it is necessary to improve the performance of managers' course and training institution by strengthening competencies, enhancing the knowledge of learning organization and optimizing the implementation of learning organization, and increasing the ability to make decisions continuously.

Keywords: Competency, Learning Organization, Decision-Making Ability, and Performance

C23   **[62]**

HOW INTERCULTURAL IS DISTANCE EDUCATION? A CASE STUDY OF EXPLORING EDUCATIONAL LEADERSHIP'S REPRESENTATIONS DURING THE COVID-19 PANDEMIC

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ABSTRACT

Intercultural education in Greece has recently been brought to the fore, due to the refugee and migrant crisis, leading to the educational systems being modernized. In this context, schools have been making important efforts to accommodate all students' needs by trying to integrate Information and Communication Technologies (ICT) in their curriculum. However, ICT utilization had been optional before the COVID-19 pandemic outburst in 2020 when distance learning, as well as technology utilization, became obligatory for everyone. In this regard, by exploring educational leadership's representations, the aim of this paper is to examine whether intercultural and distance education's principles and objectives can be combined in order for the students with a different cultural background to continue attending their lessons, as most native students do. For the needs of this study a qualitative research approach was applied, through a semi-structured interview protocol, aiming to focus on the barriers and difficulties school principals had to overcome within several intercultural school communities in Athens, from March to April, 2020. The findings of this study demonstrate that intercultural principles are hard or at some cases impossible to be applied in distance learning and hence, refugee / migrant students end up falling behind or being excluded from the educational process. Up to these, in conclusion section the research outcomes are further discussed and future research is proposed in order for these problems to be solved and for intercultural principles to be applied during the current or similar conditions in the future.

Keywords: intercultural education, distance education, ICT utilization, school principals, qualitative research approach

C24 [63]

PERSONALITY AND STUDY HABITS IN UNIVERSITY ENGINEERING STUDENTS

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ABSTRACT

This research is contextualised within university teaching. The study established as a research question: Is there a relationship between personality and study habits in students of the Faculty of Chemical Engineering of the National University of Callao; with regard to the background, it can be noted that there are national and international, the purpose of the study seeks to demonstrate whether there is a relationship between personality and study habits in students of the Faculty of Chemical Engineering of the National University of Callao. The research is methodologically supported by a descriptive correlational design. The present study used the Eysenck personality questionnaire and the study habits inventory of Luis Vicuña. The population and the sample were the same, consisting of 92 students; the data obtained from the evaluation of the students was systematized and organized, and then the statistical program SPSS 2.4 was used to perform a statistical inferential analysis using the statisticians for hypothesis testing: Pearson's Correlation; the results indicate that there is a significant relationship between the variables, personality and study habits in the university students who were evaluated. Likewise, it can be observed that there are significant levels of correlation between the dimensions of the two variables assessed; it was concluded that there is a significant relationship between the dimensions of personality and study habits and in turn there is a predominance of the variable personality in university students.

Keywords: Personality, Study habits, University, Education

C25   **[64]**

INTERCULTURAL EDUCATION AND SOCIAL INCLUSION IN THE PERUVIAN UNIVERSITY – 2020

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ABSTRACT

The objective of the research is to analyze intercultural education and social inclusion from the curriculum and micro-curriculum in the Peruvian University - 2020, it is of a priority nature. The corpus of the analysis focused on the current university curriculum and micro-curriculum. The purpose is to determine that through intercultural education social inclusion is achieved in sociocultural diversity where educational profiles are specified for the recognition of the "other". Methodology, in a population of 1,300 students, and a sample of 297 students to whom a random survey was applied, the field information was based on the indicators that make up dimensions of the variables of the study model. The results indicate that it is necessary to implement intercultural education in both the curriculum and the university microcurriculum where it is necessary to promote interculturality in university education oriented to the diverse social inclusion of Peru. It was concluded that currently cultural diversity is not taken as a category for social inclusion, there is a moderate promotion of educational citizenship that relatively affirms social inclusion, there is a real need to strategically promote intercultural education oriented to social inclusion, its practice it is relatively low both by teachers and authorities. Cultural diversity and social inclusion is significantly related to an education that grants citizenship, being necessary to promote the social inclusion of students in the Peruvian university, 2020.

Keywords: Intercultural education, social inclusion, curriculum, micro-curriculum, educational model, educational citizenship, university education

D1   **[65]**

PREPARING HIGHER EDUCATION TEACHERS FOR SUCCESSFUL ONLINE TEACHING: WHERE DOES YOUR STUDENTS' MOTIVATION COME FROM?

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ABSTRACT

Motivation is essential and vital for any classroom, especially in the higher education .Without motivation, the teacher's job becomes more difficult. Although motivation is important for both teachers and students, this article focuses on students' motivation. There has been disagreement on the source of students' motivation. In the existing literature, there were two types of discussions. The first one assumed that students had an intrinsic motivation and that what keeps them going. The second one assumed that the course design plays the most crucial role in motivating students. Therefore, the study aims to discover the source of students' motivation in a higher education institution in the UAE and to discuss the best practices for online higher education teachers that they use to motivate their students in an online learning environment. For this purpose, the researcher organized a focus group for teachers to find the best practices in an online teaching environment and conducted a students' survey to find the source of students' motivation. The results indicated the source of students' motivation and revealed that teachers found specific strategies to be more successful than others for motivating students in the online learning environment.

Keywords: Motivation, Higher Education, ESL, Online learning

D2 [66]

TO EMPOWER OR DISEMPOWER? A CRITICAL INTERPRETATION A LANGUAGE SCHOOL'S ADOPTION OF ENGLISH COURSEWARE IN CHINA

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ABSTRACT

This presentation presents initial findings from an ongoing research projects that evaluates the extent to which teachers and young students in an English language training school in Beijing, China are (dis)empowered by the use of English courseware (computer programs that are used in teaching). The presentation shows how the courseware both empowers and disempowers teachers and students. In terms of empowerment, the courseware provides guidance to novice teachers who have just embarked on their careers. Given that the language school in question operated as a franchise, it was necessary to introduce some form of standardization in order to ensure the continuity of quality across campuses. This standardization is facilitated by the courseware. However, it is possible to interpret the deployment of the courseware from a critical perspective. Initial interviews with teachers highlight how the courseware limits their capacity to teach, particularly for experienced teachers. Because the courseware is standardized, it is difficult, if not impossible, for teachers to introduce non-traditional approaches to teaching, such as differentiation, into their classes. Analysis of courseware raises implications for conceptualizations of teacher professionalism and agency within the context of digital education. The study also highlights some of the challenges that learners face whilst using the courseware online, which also offers implications for future application.

Keywords: (dis)empower, digital courseware, learners, foreign language teaching

D3   **[67]**

MOTION ACTIVATED, TEMPERATURE CONTROLLED ELECTRIC FAN

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ABSTRACT

The major objective of the study was to fabricate a motion activated and temperature-controlled electric fan. This project aims to prevent unnecessary fire risks and/or excessive electric consumption of the Bulacan State University since a lot of electric fans are used in the classrooms. It is in this light that the researchers developed a device that presents an opportunity for the development of intelligent appliances that can save on electricity consumption due to its innovative and eco-friendly features. The study utilized the developmental research method in the fabrication of the project. The focus on the procedures and processes involved analysis, development and evaluation of the project and in validating the project. The steps involved in this method include the following: (1) studying research findings pertinent to the project; (2) developing the project based on the findings; (3) field testing of the project, and (4) revising the project. The project was developed in sixty (60) working days, where prototypes were subjected to a dry run and simulation period of two (2) weeks continuous operation. The actual operation cycles of the prototypes in accordance with the varying room temperatures throughout the day, testing them on a varied number of parameters, namely: operation time, turn on times in terms of fan speed control mode and motion sensitivity tests. Results revealed that the project functioned according to its lofty expectations where it was determined that it was the appropriate design that integrated the most practical and adaptable configuration for the intended application. It is in this line that intelligent or smart ventilation systems have now matured, providing a cost-effective approach to managing hot and humid conditions with environmental considerations.

Keywords: Electric Fan, Motion Activated, Temperature Controlled, Sensor, Cost saving

D4   **[68]**

EFFECTIVENESS OF SYNCHRONOUS AND ASYNCHRONOUS ONLINE LEARNING DELIVERY IN DEVELOPING ORAL COMMUNICATION COMPETENCIES

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ABSTRACT

This evaluation study investigates the effectiveness of synchronous (SL) and asynchronous (AL) mode of learning delivery in the development of competencies in Oral Communication among Senior High School students of Engineering (STEM), Business (ABM), and Social Sciences (HUMSS) in a state-run laboratory school. Participants are selected through Stratified Sampling and SRS. It compares the extent to which objectives of the course were met, relevance of contents amidst the current context, the effectiveness of instructional delivery, and the difference in the acquisition of competencies among students in SL versus those in AL. It is especially significant as an assessment of distance e-learning is necessary amidst the digital shift in education because of the pandemic. This will ensure the quality of education remains effective and interventions may be adapted where necessary. A Course Evaluation Form as well as a Student Self-assessment of Learning were used to gather data. These instruments were validated and checked for reliability, with a Cronbach α of .859 and .871 respectively. The results of data analysis illustrate that at $\alpha=0.05$: (1) there is no statistically significant difference in the mean evaluation of SL and AL learners as to the extent in which the objectives of the course were met ($p=0.109$); (2) there is a statistically significant difference in the mean evaluation of the relevance of course content in the current context of the learners ($p=0.012$); (3) there is a statistically significant difference in the mean evaluation of SL and AL as to the effectiveness of instructional delivery ($p=0.013$), and; (4) there is no statistically significant difference in mean evaluation of SL and AL learners' acquisition of competencies in Oral Communication ($p=0.215$).

Keywords: Assessment of Learning, Online Language Course Evaluation

D5   **[69]**

ENHANCING STUDENT'S LEARNING USING VIRTUAL LEARNING MODULE IN ELEMENTARY SCHOOLS

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ABSTRACT

In the twenty-first century, generations must be highly competitive and knowledgeable in a number of fields. Furthermore, issues in the teaching and learning of science subjects with abstract and contextual characteristics must be discussed. In Malaysia, better teaching practices are considered one of the factors leading to a reduction in the interest of students in learning science.This review examined article on virtual learning module to enhance student's learning published from 2017 to 2020. Higher Order Thinking Skills (HOTS) and learning outcomes are two critical aspects of the success of the learning process. Some research findings have shown that students' HOTS and learning outcomes are below the average minimum level, so learning advances are needed to address these issues. In order to boost the HOTS and better learning outcomes of students, the virtual learning module is designed. The primary aim of this paper is to study the improvement of students' HOTS and learning outcomes through the implementation of virtual learning modules.

Keywords: virtual learning, module, learning outcome, Higher order thinking skills

D6   **[70]**

THE RELATIONSHIP BETWEEN STUDENTS' WILLINGNESS TO COMMUNICATE IN ENGLISH INSIDE AND OUTSIDE OF THE CLASSROOM AND THEIR AUTONOMOUS USE OF EDUCATIONAL TECHNOLOGY

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ABSTRACT

The paper discusses the phenomenon of willingness to communicate in a foreign language and the impact of information technologies on learning a foreign language and willingness to communicate in that language. The study presented in the paper aimed to verify whether access to an online educational blog run by the teacher can affect students' willingness to communicate (WTC) in English. For this purpose, an experimental study was conducted where the experimental group had access to the blog created by the author. The participants consisted of students of two intact language groups attending a large state upper-secondary school in Warsaw. As WTC is a complex variable with dual characteristics, different instruments were used to measure WTC as a general predisposition and as a willingness to communicate at a specific time and place. Thus, the study adopts a mixed-methods approach and utilizes a set of instruments for measuring students' WTC inside and outside the classroom and for collecting both qualitative and quantitative data. Then, WTC at pretest and posttest results were compared statistically with the use of the ANOVA test. Additionally, two types of correlational analysis, that is Pearson's and Spearman's, were conducted to investigate the existence of a relationship between WTC inside and outside the classroom. The study found that access to the blog did not affect students' willingness to communicate, and the correlation between willingness to communicate inside and outside the classroom depended on the type of the task.

Keywords: education technology, educational blogging, WTC

D7   **[71]**

DESIGNING A VIRTUAL REALITY ENVIRONMENT FOR TRAINING OF MEDICAL STUDENTS ON PATIENT SAFETY CULTURE

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ABSTRACT

In medicine, the awareness of reducing medication errors and risk situations for patients has increased in recent years, due to different driving forces such as patient advocate movements, and quality management strategies of health centers and regulatory bodies. However, this awareness should be reflected in the integration of strategies to prevent them and train medical students, residents, and specialists in patient safety principles. The inclusion of technologies for tridimensional visualization, such as virtual reality (VR) enables the development of innovative training proposals that contribute to a patient safety culture. The objective of this project was to design a virtual reality environment for the training of medical students on patient safety culture. The development consisted of the phases of planning, design, and implementation. Planning referred to the development of learning objectives and conceptualization of scenarios. The design consisted of the technical exploration of the different tools, and the production of the setting. The definition of the elements to integrate was done by triangulating the perspectives of faculty members, hospitals, and schools. As a result, a surgical setting for training was developed for medical students to familiarize and understand the environment and the processes that take place in a patient intervention. The reported experience assesses the key elements for a new VR developer: the link to the needs of the organization and the technical feasibility of the systems that are now available in the market.

Keywords: higher education, educational innovation, educational technology, virtual reality, medical education, patient safety

D8 [72]

IMPLICATION OF VIRTUAL LEARNING ENVIRONMENTS IN TECHNOLOGICAL ADAPTATION BY UNIVERSITY STUDENTS - PERU - 2020

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ABSTRACT

The research aims to analyze the influence of virtual learning environments on adaptation to new technologies by university students, Peru-2020. The planet and Peru, as a consequence of COVID 19, millions of students were "confined" to their homes, an unprecedented phenomenon. To avoid massive contagions, face-to-face education was abandoned for learning in virtual EVA environments. The university quickly trained teachers and students to solve the problem of the digital divide. The purpose was to demonstrate that teachers and students must face the pressure of the process of adapting to new learning technologies in the virtual classroom by planning and managing a relevant curriculum and micro-curriculum. A significant methodology was applied to the causal explanatory problem, cross-sectional information of the educational and longitudinal teaching process of educational patterns and adaptive learning values. The sample was 1300 students, a questionnaire was applied to know the adaptation to new technologies of the virtual learning environment. The results show that there is a digital gap for access to new technologies, technological illiteracy and cultural adaptation in process; influence of information, open teaching, linguistics and organization of new technologies. It is concluded that the educational phenomenon caused by the pandemic made it necessary to resort to the virtual campus and the pedagogical-didactic factors are progressively adapted to the technologies, their organization and their own communication tools that are applied in a traditional university context. In the current situation, teachers and students must adapt rapidly to new technologies by the diverse university community.

Keywords: Virtual learning environment, technological adaptation, educational teaching process, university education, information, open distance learning, linguistics, organization of virtual environments

D9   **[73]**

PROMOTING EDUCATION FOR SUSTAINABLE DEVELOPMENT THROUGH ONLINE RESOURCES

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ABSTRACT

Innovation in learning and teaching in higher education permits greater impact on students in the context of the current form of communication, compared to the traditional model of teaching. Employing innovative teaching resources offers opportunities to explore different global perspectives and can help students recognize the complexities behind the world's current challenges, including that of Sustainable Development. This study is part of an investigation that, through surveys, interviews, questionnaires, and ethnographic tools, has collected information to address the need for innovative resources to promote Education for Sustainable Development (ESD) more efficiently into the higher education curricula. Through the design of a digital platform and an online test that allows architecture and industrial design students to evaluate the sustainability of their projects and have access to various innovative digital resources that promote the development of skills in Sustainable Development (SD), this study seeks to respond to the call for responsible actions, based on rational principles and ethical values to integrate SD in the study plans. The main results of the first and the second applications of the test are presented (Spring 2020 semester and Fall 2020). An important finding so far is that it is necessary to integrate SD more firmly and more efficiently and that we must promote a deeper reflection in students about SD from the bachelor they study and provide them with an adequate variety of resources for the development of their projects, such as: tests to evaluate sustainability, links to workshops, online games, complementary courses and conferences, videos and webinars with experts, among others.

Keywords: Sustainable development education, higher education

D10   **[74]**

DESIGN ELEMENTS IN FLEXIBLE DIGITAL MODEL (MFD) COURSES FOR STUDENT ENGAGEMENT IN INDUSTRIAL AND SYSTEMS ENGINEERING PROGRAM

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ABSTRACT

Crisis caused by COVID-19 forced academics to transform face to face education into digital education. As most of the courses had been never taught this way, professors needed to learn how to interact with students, and teach the academic content within a virtual platform. There was a major concern about how these online synchronous sessions had to be delivered, as well as which elements were critical for knowledge transfer and add value to the Industrial and Systems Engineering (ISE) courses. For having a proper feedback about this format, an instrument was created to evaluate the design course elements, based on theoretical approaches of teaching and learning processes in higher education, particularly on student experiences. The instrument consisted of a survey applied to ISE students from Tecnológico de Monterrey. The analysis considered the nature of the different courses involved in the study, and their categorization as Theoretical, Numerical or Mixed. After applying statistical analysis, some of those elements showed a positive evaluation by students and considering the correlations among them, recommendations for the design of Digital Flexible Model (MFD) courses are made. A positive correlation has been found between active participation of the students, voluntary participation, and the sense of involvement, as well as the ease of interacting that the technological platform provided to the students. Among other results, highlighting the usage of a technological platform is not enough to deliver MFD courses, it is necessary to consider design elements for engaging and motivating students' participation. It is notorious for the need for a "holistic" transversal approach that complements the design of the successful interaction experience of students in the MFD.

Keywords: Digital Education, MFD (Digital Flexible Model), Education in pandemic, Educational Innovation, Higher Education, Students engagement

D11 [75]

INCREASING STUDENT LEARNING, INFORMATION LITERACY AND CREATIVITY THROUGH E-LEARNING CREATION

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ABSTRACT

Because of limit of time and high numbers of who enrolled an academic research course, it was hard for instructors to manage teaching and learning activities that helped students to be success in the course. The data from previous semesters showed that students could not finish all contents and lacked of opportunity in developing information literacy and creativity, which were important research skills that directly impacted quality of their thesis or research study in the future. Therefore, the study aimed to solve those problems. The researcher developed E-Learning Creation project which required participants to study and create e-learning tools that helped them to learn and develop research skills. Participants were 32 graduate students who enrolled the research course in Fall semester 2019. In this project, participants had to collect information from various resources and analyze it in order to gather accurate information for create creative e-learning tools. Participants had 2 weeks to complete the project and they had to share and study content through those e-learning tools within a week. Tests and surveys were given to participants in order to measure their knowledge achievement, information literacy, and creativity before and after the project was completed. The results showed that students had better knowledge after the project completed ($p<0.05$). All of them improved their information literacy ($p<0.05$) and creativity skills ($p<0.05$). In addition, they agreed that they enjoyed participating in this project ($\bar{X} = 4.23$) and it was motivated them to learn more about research content and have better research skills ($\bar{X} = 4.56$)

Keywords: E-Learning, Information Literacy, Creativity, Educational Technology

D12   **[76]**

RELATIONSHIPS BETWEEN CLASSMATES AND LEARNING MATHEMATICS THROUGH ICT

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ABSTRACT

At present, the use of ICT (Information Communication Technology) is integrated in everyday teaching. Apart from developing new knowledge, it is convenient to test if computer enhances communication and solidarity among students. The implementation of the Program School 2.0 in Spain in conjunction with PISA survey for 2012 provides a unique opportunity for analyzing this issue. We estimate a bivariate ordered probit model for the frequency of support provided to other students and Mathematics performance and posit the potential endogeneity of the variable Mathematics performance given that support received from others could have a significant effect over the resulting Mathematics achievement. We highlight two main results. First, the probability of helping other classmates with Mathematics increases notoriously in participant Communities in School 2.0 for "strong performers" and "top performers". Second, for immigrant and repeater students, probability of providing support "always/almost always" or "often" increases significantly in participant Communities with respect to non-participant Communities for all Mathematics performance levels. Our interpretation of these results is that ICT provide an incentive for exchanging mathematical problems and discussing different solutions. And what is even more valuable, in an unintended manner, ICT may foster togetherness and ease the integration of different profiles of students.

Keywords: Mathematics, ICT, interaction, integration

D13   **[77]**

ONLINE EDUCATION- ISSUES AND CHALLENGES IN DIGITAL EQUALITY MATTERS

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ABSTRACT

Access to education based on equality is ongoing objectives of developing countries like India. The focus of this article is on conceptual understanding of online education – Issues and challenges in digital equality matter. Being the citizen of a third country. I will discuss the existing gap between the marginalized peoples and socially advanced peoples. In the system of imparting education, it is expected to be student-centric approach in earning and learning knowledge and wisdom of survival professional skills. In the context of digitalization of education, internet access is the most influencing factor in digital equality matters. The purpose and objectives of this article to understand conceptual issues and challenges in online education. Further, it will discuss how digital equality matters in the realization of constitutional goals and Sustainable Development Goal-4. The relative access, participation and capacity of the end-user in online education are the major area of research problem in the present study. In the background of COVId-19 world health emergency imparting education by online mode was and are '*Hercules*' tasks for developing country. The COVID-19 pandemic has divided society between '*have*' and '*have not*' in terms of access to education by online mode. The disparity in the use of information and technology, access to the internet, social inequality, and low income are constraint and restraint in digital quality matters. The analytical discussion will be made by non-empirical methods of research and conclusion will be made by an armchair method in line of objectives and purpose of understanding of issues and challenges of digital equality in online education.

Keywords: Digital Equality, Education, Human Rights, Information and technology, Constitution

D14 [78]

TRANSFORMATIONS OF MONA LISA: THE CASE OF A DISTANCE EDUCATION ART-AND-TECHNOLOGY PROJECT

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ABSTRACT

Mona Lisa masterpiece by Leonardo Da Vinci has been subject to numerous and various transformations in the form of (re)interpretations, reproductions, replicas, appropriations and parodies. Mona Lisa is far more than a mere Renaissance portrait or a symbol of its time. Instead *Mona Lisa* is radically connected with artistic movements and practices throughout the history of art as well as with the 20th and 21st century visual culture, visual commerce and social media imagery. This paper presents an activity in a higher education Department of Early Childhood where students experimented with digital tools and made a collective artwork of digital transformations of *Mona Lisa*. This digital experiment was a distance education project which took place during the COVID-19 pandemic restrictions in Greece. At first students were given examples of appropriations and parodies of *Mona Lisa* from the history of art as well as from the visual culture. Then students gave their own "responses" through making digitally transformed versions of *Mona Lisa* which they put together in a collective digital mosaic. Clones, distortions, semi-transparencies, repositions and other transformations within 75 *Mona Lisa* versions render this collective artwork a composition with reference to pixel structure. Students' collective artwork contributed to the deeper understanding of Da Vinci's masterpiece and increased their confidence and familiarity with Renaissance painting. The case of this activity proves that digital culture is a catalyst for art history learning and creativity in the classroom. Furthermore, this activity fosters collaborative learning through distance education and turns out to be a vehicle for empowering learners in a digital world, as well as for developing linguistic, numerical and multisensory skills through digital creativity.

Keywords: *Mona Lisa*, Leonardo Da Vinci, higher education, distance education, digital art

D15 [79]

CAN VIRTUAL REALITY ENHANCED ROLE-PLAY SCENARIOS USING MOBILE DEVICES ENRICH CLASSROOM LEARNING? A CASE STUDY IN VOCATIONAL TRAINING OF REAL ESTATE SPECIALISTS

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ABSTRACT

Virtual reality technology offers high potential for classroom learning. However, its' broad systematic integration into educational curricula is still in its infancy due to a lack of appropriate media didactical concepts, infrastructure, and digital literacy among the primary stakeholders (i. e., teachers and learners). To drive progress in this field, we developed a role-play scenario for apprentices and trainees to practice apartment inspection. It uses a virtual reality application accessed by a smartphone and held by a cardboard. We developed the virtual basic environment within an iterative process of designing usable systems according to ISO 9241-210 employing the Unity engine. To enable high adaptiveness and didactic flexibility, we modelled four macro use-cases for the scenarios' integration into classroom learning: (1) Individual practice, (2) collaborative practice, (3) guided individual practice, and (4) guided collaborative practice. Recently, we evaluated use case (3) applying a mixed-methods design that includes a participatory observation, standardized monitoring questionnaires (including the UEQ-S, the learnability subscale of the SUS, as well as the VRSQ), and guideline-based interviews. Ten apprentices (50 % female; age: $M = 22.30$, $SD = 3.30$) took part in the trial. Their self-reports indicate perceived pragmatic ($M = 5,95$; $SD = 0,85$) and hedonic user experience quality ($M = 6.15$; $SD = 1.33$) as very high along with very low virtual reality sickness scores ($M = 1.77$; $SD = 0.80$). Furthermore, participants consider the virtual reality systems' learnability to be rather high ($M = 3.80$; $SD = 0.59$). All participants highly recommended the scenarios' implementation into classroom learning. These results point to the assumption that educational settings using virtual reality may enrich classroom learning when designed appropriately.

Keywords: Virtual Reality, Classroom learning, Collaborative learning, Mixed methods, User experience

D16 [80]

IMPACT OF CHATBOTS ON STUDENT LEARNING IN THE ENTREPRENEURSHIP EDUCATION PROGRAMME

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ABSTRACT

There are many ways to learn how to be entrepreneurs and one of the powerful ways is to learn from successful entrepreneurs. However, it is not easy to interview those entrepreneurs about their best practices in real life. Therefore, chatbot technology can have an important role to play in entrepreneurship education as it is a trendy and innovative way to mimic conversation of successful entrepreneurs and provide pre-programmed responses of best entrepreneurial practices from books, articles and interviews. Therefore, this research aimed to measure the impact of chatbots with 24 first year graduate students who enrolled in a master's degree in entrepreneurship education program at Kasetsart university. The researcher, as a teacher, created two chatbots of successful entrepreneurs, developed the chatbot appropriateness questionnaire and student perception of their satisfaction and learning questionnaires. Mean, standard deviation, and content analysis were used to analyze data collected from all questionnaires. The research findings indicated that the developed chatbots were appropriate at a very high level ($\bar{x}$ = 4.75, S.D. = 0.22) according to experts' opinions. Students were satisfied with the chatbots at a very high level ($\bar{x}$ = 4.65, S.D. = 0.44). They thought that the chatbots were an interesting, innovative, and fun teaching way with game-like learning tasks to interview successful entrepreneurs in the form of chatbots. Students perception of their learning were positive as they felt that they were equipped with right entrepreneurship knowledge to succeed as an entrepreneur after completing their learning tasks. This study pointed out that chatbot technology has positive impact on student learning and it can be implemented as a powerful tool to teach entrepreneurship in entrepreneurship education programmes.

Keywords: Impact, Chatbot, Student learning

D17 [81]

THE INFLUENCE OF TECHNOLOGICAL ADVANCEMENT ON THE FUTURE DEVELOPMENT OF DESIGN TEACHING

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ABSTRACT

The study of the development process of China's information education can find that the technological development represented by information technology has had a positive impact on classroom teaching. Design is an applied discipline. In design teaching, technological progress directly affects discipline development, teaching curriculum design, and classroom teaching management. The evolution of teaching content design is the need to continuously adapt to the changes in the new technological environment, and the design of the teaching process and teaching content should pay more attention to the future. The development of education in the future is an issue that we need to study. As the development process of online education, the development of design disciplines also shows that design and technological development are in an integrated relationship, and the influence of technological progress on design education is an interdisciplinary influence. Teaching content design is not only the application of new technology, but also the process of self-improvement, iteration and progress of design education, and ultimately serves the main body of teaching, teachers and students.

Keywords: Technological, Design Education, Future education

D18 [82]

THE ROLE OF SELF-CONFIDENCE, ADVERSITY QUOTIENT, AND SELF-EFFICACY CRITICAL THINKING: PATH MODEL

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ABSTRACT

Vocational colleges have an important role in preparing Human Resources (students) become professional and experts can determine expertise and skills in their fields, ready to work and are able to compete globally. Based on this situation, it is necessary to conduct a comprehensive study related to the role of Adversity Quotient, self-confidence, and Self-efficacy towards the critical thinking abilities of cadets. The objective of this study is to examine the effects of Self-confidence, Adversity Quotient, and Self-Efficacy variables on Critical Thinking. This research's participants are 137 cadets of Aviation Polytechnics of Surabaya with the sampling technique that was purposive sampling. In this study, the data collection method used a questionnaire with Linkert-scale and distributed or given to respondents by the specified number of samples. The SPSS AMOS v23 was used to test a number of a priori multivariate growth curve models and examining relationships between the variables via path analysis. The result of path analysis was ($\chi2 = 88.463$, df= 71, $\chi2$ /df= 1.246, GFI= .914, CFI= .988, P= .079, AGFI= .873, TLI= .985, RMSEA= .043). According to the analysis, there is a positive and significant relationship between self-confidence, adversity quotient, and self-efficacy variables on critical thinking.

Keywords: self-confidence, adversity quotient, self-efficacy variables, critical thinking

E1 [83]

FACULTY EMOTIONS DURING THE COVID-19 PANDEMIC AND THE STRATEGIES TO ASSURE THEIR EMOTIONAL WELLBEING

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ABSTRACT

This paper analyzes faculty's emotions during the COVID-19 pandemic and identifies their characteristics and possible emotional vulnerability in order to provide decision makers with information necessary to better serve this community. This action is important since teaching is catalogued as the fourth most stressful profession in the world, and due to adverse conditions, this could increase, as reported by the literature. This research, carried out during April 2020, answers the questions: What are the factors, related to the pandemic, that cause stress in the faculty of the Tecnologico de Monterrey? What characteristics do these professors have that might add to their stress levels due to the pandemic? A survey of 104 professors of the South-Center Region of the Tec de Monterrey was conducted and the results were analyzed using a mixed methodology which included text analysis and descriptive and inference statistics. Results indicated that the mayor concerns were health, getting sick, contagion and uncertainty. Other concerns included socio economic consequences of lockdown and their teaching performance under online modality. Regarding health, the faculty reported feeling more frequently concerned, followed by feeling calm, excellent, at risk and vulnerable and 36% revealed having negative feelings regarding their health. Based on their generation, negative feelings increased the older the faculty member was, from 28% of Millennials to 55% of Boomers. Feelings regarding health issues are related to gender and generation, however, these are independent of the academic degree, the professional experience and the professors ranking. Furthermore, we mention the strategies implemented by the Tec de Monterrey to assure the emotional wellbeing of its faculty.

Keywords: Faculty stress, professors' emotions, professors' wellbeing, education during pandemic, faculty concerns, strategies during pandemic

E2 [84]

GAMIFICATION STRATEGIES IN HIGHER EDUCATION IN THE ERA OF PANDEMIC

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ABSTRACT

The on-going pandemic has shifted how education, teaching strategies, and technology interact with each other. With the universities forced by the COVID-19 to cease on-campus education and immigrate to virtual class settings, virtual tools, once perceived as a supporting or supplementary education aspect, evolve to be the center stone of contemporary education. While vast arrays of rearrangements are taking place and new ways of class delivery styles are experimenting, the need for providing an engaging online content delivery strategy still exists. As a result, to support a dynamic teaching structure and achieve desired learning outcomes, some university and college lecturers start to employ non-traditional teaching techniques. One of the most widely used and relatively controversial techniques that emerged as a solution is gamification. Whether this teaching method is effective or not has not been well established. It is also still questionable how this strategy can be utilized in a virtual learning environment. Motivated to contribute this on-going debate, the present paper proposes to conduct a systematic literature review following the "Preferred Reporting Items for Systematic Reviews and Meta-Analyses" (PRISMA) methodology to answer the following set of questions: (1) Is gamification a viable teaching strategy? (2) What are the commonly used gamification strategies? (3) Can gamification-based teaching be incorporated to online classes? This study utilizes the Web of Science (WoS) Core Collection database to mine data for the last five years to answer research questions. The results indicate that gamification is an effective teaching strategy and can be easily integrated into virtual class settings. Findings contributes to the relevant literature strand while providing insight about contemporary teaching styles to lecturers.

Keywords: gamification, PRISMA, education innovation, higher education, COVID-19, learning science

E3   **[85]**

DIGITAL EDUCATIONAL MODEL: TRANSFORMATION TOWARDS A DISTANCE UNIVERSITY EXPERIENCE

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ABSTRACT

The declaration of the COVID-19 pandemic as health emergency disrupted multiple sectors, and education was not an exception. Particularly in medical education, in addition to caring for patients that had been exposed to the virus, faculty members had the responsibility to guarantee academic quality and continuity. The transition to an emergency remote model gave rise to a new digital educational model that provided not only content delivery, but the whole university experience. The objective of this study was to assess the quality of this digital educational model that resulted from the transformation. The study considered a quantitative approach, with a descriptive and cross-sectional design. The sampling strategy was a convenience sample of 213 first-year undergraduate students. As an instrument, a 28-item questionnaire with a Likert scale was used. The statistical analysis considered Cronbach's alpha, item-total correlation, and factor analysis to analyze the structure of the instrument. Subsequently, descriptive statistics was used to identify trends in the responses of the participants. The internal consistency of the instrument is adequate with a Cronbach's alpha of 0.9. The factor analysis resulted in four dimensions, that represent the educational model: 1) content and curriculum, 2) teaching and learning practices, 3) technology and infrastructure, and 4) collaboration and networks. This crisis poses new challenges for education, but also new opportunities that include reimagining how the training process should be carried out to guarantee success besides any unforeseen events. Undoubtedly the response of individuals and organizations will not be forgotten and will determine their competitiveness for posterity.

Keywords: higher education, distance education, digital educational model, COVID-19, pandemic adaptations, emergency remote education

E4   **[86]**

E-LEARNING DURING COVID19 PERIOD: FLIPPING THE CLASSROOM AND GAMIFICATION AS LEARNING METHODS FOR MATHEMATICAL UNDERSTANDING IN ARCHITECTURE

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ABSTRACT

Coronavirus change the world included teaching approaches. With schools closed, technology has become a powerful tool for educational purposes; the potential of e-learning affects education significantly as it provides improved informational content and interactive apps to apply theoretical knowledge. Teaching methods should be considered for each subject to ensure students get significant experience. This paper summarizes findings from an empirical study involving a new learning method for the architecture structural design course using flipping the classroom and gamification as learning methods. The e-learning solutions used were short videos containing each subject's essential theory and interactive software programmed as smartphone applications containing the course subjects. A web site with the class videos embedded and examples for solving the application's games was made to ensure students get the same information and practice the same exercises they were instructed. To assess this new method's effects, a comparison between classes on-site and on-line classes is presented. Results were promising; students like to learn about the class subjects at their own pace; they enjoyed practicing mathematical and physics theory feeling inside a video game mood. Students gained motivation, engagement, and good grades during this on-line learning period; no final exam was needed as they presented a final project using the structural concepts learned.

Keywords: educational innovation, learning method, e-learning, gamification, flipping classroom

E5   **[87]**

TRANSFORMING MEDICAL STUDENTS TRAINING THROUGH SCREEN-BASED CLINICAL SIMULATION

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ABSTRACT

Clinical simulation is an engaging teaching strategy. It focuses on the development of disciplinary and soft skills in medical students through structured educational activities that are followed with assessment and feedback. COVID-19 has forced medical schools into redesigning many curricular activities leveraging the use of screen-based technologies to offer trainings amid the pandemic. The objective of this study was to assess the adaptation of clinical simulation to a screen-based format to continue medical students training. The sample of participants in this study were 34-third-year medical students. This strategy was implemented during the fall semester of 2020. Simulation sessions were held through a synchronous videoconference platform were students used a monitor for vital signs, an actor simulated a patient and the corresponding lab results, and imaging studies were available upon students' request. Students provided care for the patient by teams, they interviewed and asked for physical exam findings to an actor representing a nurse. The simulation adapted to the team's performance, students were provided with the test results as they requested, and the patient's vital signs responded to the team's prescriptions. Following the simulation, they received feedback using the debriefing with good-judgement framework which supports a reflection regarding their mental processes leading to decision-making. Adapting educational strategies using technology in remote teaching are essential for medical schools to continue their training. This curricular adaptation exemplifies a proficient way to carry out screen-based simulation activities amid the pandemic, which could be easily adapted to other disciplines and educational levels.

Keywords: higher education, educational innovation, medical education, pandemic adaptations, COVID-19, screen-based simulation

E6   **[88]**

ADAPTABILITY STRATEGIES OF LEARNERS AGAINST COVID-19 UNCERTAINTY

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ABSTRACT

New infectious diseases, specially one of the magnitudes of COVID-19, leads to complex situations for individuals and communities alike. Particularly in higher-education, learners face a surrealist world in which education shifted abruptly to an online setting. Regardless of their field of study, they had to apply coping strategies to adapt and incorporate new values, beliefs, and perspectives into a new learning environment. Universities must foster educational opportunities to train learners on these capacities or skills to prepare professionals not only with the technical competence but also in these skills vital for their success in their profession. The objective of this study was to assess these adaptability strategies that higher-education learners had to tackle the uncertainty of the COVID-19 pandemic. A quantitative approach was considered with a descriptive and cross-sectional design. The convenience sample consisted of 34 learners in the final year of their medical program. As an instrument, and adaptation of the Proactive Coping Inventory was used with a 5-level Likert scale were 1 stands for total disagreement and 5 with total agreement. The analysis considers descriptive statistics to assess trends in items, and an analysis of variance, ANOVA to compare results between strategies. According to the results, students use more than one strategy to cope with difficult situations. The mean obtained in the strategy of control was 3.98, curiosity 3.18, confidence 3.02, and concern was 2.97. The ANOVA test showed that there is no significant difference in the dimensions (p-value of 0.062). These results indicate that students had intellectual curiosity to propose new personal and professional development goals, as well as monitoring the scope of those through self-regulation.

Keywords: educational innovation, higher education, medical education, coping strategies, COVID-19, pandemic adaptations

E7 [89]

EDUCATIVE HYBRID MASSIVE INTERVENTION AS A STRATEGY FOR REINTEGRATION TO THE CLINICAL COURSES OF UNDERGRADUATE STUDENTS DURING SARS-COV-2 PANDEMIC

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ABSTRACT

The SARS-COV-2, pandemic generated the need to modify the current clinical educational model with the challenge of promoting safety as well as the continuity of clinical education through the use of virtual platforms. Since clinical training in hospital institutions cannot be substituted, a strategic training plan was developed to guarantee protection, safety, and academic continuity for students upon their return to clinical clerkships. The objective of this project was to develop and evaluate the impact of a hybrid massive training plan as an educative strategy to give the theoretical and practical knowledge required for the safe return of undergraduate students to their respective clinical activities in the context of this pandemic. An academic program was designed through a massive hybrid strategy to train 616 undergraduate students studying clinical cycles by presential, virtual, synchronous, and asynchronous activities. To know the impact of the program, a pre-experimental study with pre-test and post-test was carried out to evaluate the acquisition of the important knowledge and skills of the program. A significant difference was found between the means of the initial and final evaluations (p <0.001), as well as a high impact of the intervention (d 1.6). Significant improvements in the areas of COVID-19 initial management (p <0.001) and personal protective equipment use (p <0.001) were seen in the post-test when comparing to the initial evaluation. A quantitative and qualitative analysis of the satisfaction survey was carried out, finding positive results on the course design, quality of didactic resources, and instructors' performance massive hybrid training is an effective strategy to facilitate the reintegration of undergraduate students to their face-to-face clinical rotations.

Keywords: SARS-COV 2, Hybrid education, Clinical clerkships, Training, Distance learning

E8 [90]

UNDERGRADUATE STUDENT'S INVOLVEMENT ON A DIGITAL PATIENT-EDUCATION STRATEGY AMID COVID-19 PANDEMIC

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ABSTRACT

The COVID-19 pandemic has generated important challenges in education of future physicians, but also brought attention back to the vulnerability caused by non-communicable diseases, such as cancer, emphysema and cardiovascular diseases. Due to the risk of contagion, the patient-based education strategies were put on hold, as they were face-to-face based. Also, there is a need to develop strategies that use technology to offer efficient and fast medical content to the public. To overcome this situation, we involved undergraduate medical students in the development of contents and infographics for a mobile application (app) focused on early diagnosis of cancer. The objective of this study was to assess the effectiveness of this implementation to generate a digital patient-education strategy. The participants were 18 medical students enrolled in our institution in the Pathophysiology of Respiratory System course. A project-based learning approach in focus group sessions was used to work with the participants. The students were able to apply the concepts covered in their classes during the generation of the mentioned contents. Ten infographics and prototypes of the app were created as a result of this experience. Also, we observed a high level of engagement during the sessions. When the app is completed, we plan to create a social startup to generate content about more non-communicable diseases to promote prevention and early diagnosis. Educational strategies that involve medical students in the development of social projects have two beneficial outcomes: the students not only internalize significant knowledge but also generate a positive impact on society's health. With this work, we expect to inspire educators to empower students for the development of real-life solutions as part of their educational activities.

Keywords: Educational innovation, Higher education, medical education, patient-education strategy, technology development, pandemic adaptations

E9   **[91]**

SCALE TO MEASURE STRESSFUL CHARACTERISTICS IN EDUCATIONAL ENVIRONMENTS

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ABSTRACT

When students enter the university, they find a series of activities that can potentially stress them and cause their training experience to be not the ideal one for their learning. It is the responsibility of higher education institutions to provide an optimal environment for the acquisition of knowledge and skills, therefore, it is necessary to have instruments that measure the degree of stress generated. The objective of this study is to determine the psychometric properties of a scale that measures stressful characteristics in educational environments. A cross-sectional study with a survey design was carried out. 262 university students participated, 122 of which were men with a mean age of 22.6 (SD= 1.4) and 140 were women with a mean age of 22.1 (SD=1.2). A scale composed of the dimensions of saturation (11 items) and unpredictability (7 items,) was obtained. An Exploratory Factor Analysis was performed with the Maximum Likelihood extraction method and oblimin rotation to determine the construct validity. It was possible to explain 52.3% of the variance ($X2 = 2566.64.39$, gl = 153, p = .001; KMO = .92). Reliability, was calculated through internal consistency using the Cronbach coefficient, obtaining an alpha value of .92. A parsimonious scale was obtained with the necessary evidence to conclude that valid and reliable data can be obtained, which will allow stressful educational contexts for the students to be identified, and thereupon modified or intervened in order to generate a healthy learning environment.

Keywords: Stress, Student, Scale, Validity, Reliability, Educational Innovation

E10   **[92]**

ONLINE TEACHING DURING THE COVID-19 PANDEMIC FROM A STUDENT PERSPECTIVE

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ABSTRACT

The COVID-19 pandemic brought new challenges to the higher education system that required great flexibility for all participants. Maintenance classes online during a lockdown was a big challenge for professors and students. Teaching and communication were held on different platforms and communication services depending on the choice of individual professors. In this situation, students adjusted and adopted new knowledge which the needs to use different learning and communication systems. The paper based on research question, Advantages and disadvantages of online teaching. The research will collect students' self-assessment of their own success in overcoming the challenges of online teaching as well as their opinion about online teaching in general and in relation to learning outcomes and the advantages and disadvantages of studying. Students from the Faculty of Teacher Education, University of Zagreb, department in early and preschool education at the location in Zagreb and Petrinja, will participate in the research. The research will be conducted through an online questionnaire in accordance with all ethical rules of the research. The collected data will be processed in the statistical program for data processing (SPSS). The obtained results can contribute to the definition of general rules for organizing and holding online classes at the faculty in situations when it is impossible to maintain contact classes. In this process, it is important to harmonize the portal that will be used at the level of the entire faculty and to think about achieving learning outcomes.

Keywords: communication, faculty education, learning outcomes, learning portals, professors

E11   **[93]**

FACULTY PERSPECTIVES ABOUT THE TRANSITION FROM FACE-TO-FACE TO DIGITAL/ONLINE MODALITY IN A MEXICAN UNIVERSITY

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ABSTRACT

This work describes the transition of higher education from face-to-face to digital/online modality from the perspective of the teachers. To avoid the spread of the COVID-19 disease, the governments established the closure of all educational institutions. This condition forced every teacher to abruptly adjust his/her teaching to distance modality. To face this challenge within one week, Tecnologico de Monterrey (TEC de Monterrey), a private mexican university, established a series of strategies to implement every course in online modality, called Flexible Digital Model (FDM). This research, carried out after one month under lockdown, answers the question: how did the TEC de Monterrey faculty experience the transition of their teaching to digital modality from the emotional aspect and the academic performance? A survey of 104 professors of the South-Center Region of the Tec de Monterrey was conducted and the results were analyzed using a quantitative methodology including descriptive and inference statistics. Statistical evidence shows that more than 50% of the participants promptly adjusted their teaching performance to FDM, even though less than 50% of the participants liked such modality. Furthermore, more than 50% of the participants frequently experienced positive, good and pleasant emotions towards their teaching performance, and even, consider continuity and rhythm in their FDM classes and their global teaching performance as good. Additionally, over 50% of them considered students' participation, homeworks and projects submissions, academic integrity in evaluations and learning during FDM courses as good. These results show that the strategies of innovation, training, technical support and accompaniment to the faculty, implemented by TEC de Monterrey were effective to keep delivering quality higher education in the online modality.

Keywords: Faculty perceptions, transition from face-to-face to online lessons, higher education under pandemic, teaching performance, teachers' emotions

E12   **[94]**

LEARNING AMID COVID-19: MEDICAL STUDENTS INVOLVEMENT IN PATIENT EDUCATION & DISEASE AWARENESS

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ABSTRACT

The pandemic has nurtured meaningful transformations in educational contexts, even traditional contexts were open to accept changes in approaches and methodologies. Medical professionals' education is challenging, as its learning opportunities rely heavily on presence-based interaction in patient care or for the development of community driven activities such as patient education. As these activities not only benefit students' acquisition of skills but also fulfil a social responsibility to society, medical schools needed to promptly reimagine new formats for these dynamics to be offered despite the coronavirus. The objective of this study was to assess the transformation of patient education and disease awareness strategies to new formats. The sample consisted of 34 medical students enrolled in an endocrine diseases' course. Participants designed a patient education and disease awareness campaign to be conducted online through social media. Instructions and advisor meetings were held both synchronous and asynchronous through the university's learning management system. Students were divided into 4 teams, and each team were assigned a specific endocrine disorder as the campaign target: dyslipidemia, diabetes mellitus, osteoporosis, and hypothyroidism. Each team designed the material for the campaign based on the literature research they performed. The initial results show that the transformation on this educational experience was key to offer educational learning experiences for medical students amid the pandemic. Each team submitted a final report on their campaign results, and a reflection of how this experience was significant to continue their clinical training. The campaigns held in social media platforms received a favorable response, as comments and likes from the audience show, which helped on tunning the contents to relate closely to the specific audience.

Keywords: higher education, educational innovation, medical education, pandemic adaptations, COVID-19, digital education campaign

E13 [95]

GLOBAL CLASSROOM: INTERNATIONALIZATION FOR UNDERGRADUATE STUDENTS AMID THE PANDEMIC

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ABSTRACT

One of the first groups of students that felt the impact of COVID-19 were the ones participating on an international exchange experience, as the virus spreader these opportunities were canceled, and they traveled back home. As these opportunities are a life-changing experience to interact with other settings and develop intercultural skills while learning, new formats needed to offer the internationalization experience for undergraduate students amid the pandemic. The Global Classroom implementation focused on a virtual class shared with students from Mexico and Ecuador in the Gender and sexuality class. The objective of this study was to assess the contribution of the educational innovation to promote learning in multicultural environments and interdisciplinary skills within the framework of respect for human dignity. A quantitative approach was considered to analyze student's perception of the experience, and the design was descriptive and cross-sectional. The sample were 43 students enrolled in the experience in the August-December semester in 2020, 21 from Mexico and 22 from Ecuador. The instrument was made of 7 items in which the participants shared their experience regarding the different tools and activities, and their contribution to the educational objectives. Results show that students valued the development of campaigns to promote human dignity, gender equality, and health prevention. They also highlighted the contribution of the different free-access educational technology tools such as Google sites, Padlet and Zoom, as this allowed them to develop synchronous and asynchronous activities. Other disciplines and institutions can learn from this implementation to design remote educational environments that offer this internationalization experience for learners amid the pandemic.

Keywords: higher education, educational innovation, interdisciplinary education, multicultural education, gender and sexuality, pandemic adaptations

E14   **[96]**

HIGHER EDUCATION STUDENTS' EXPERIENCE WHEN A DIGITAL EDUCATIONAL MODALITY IS IMPLEMENTED AS A RESPONSE TO LOCKDOWN

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ABSTRACT

In 2020, universities worldwide migrated abruptly from face-to-face education to an emergency remote distance format to respond to the SARS-CoV-2 pandemic. The present study aimed to assess the perception of this type of learning experience from the students' perspective. A mixed-method design was conducted considering 796 students from six different disciplinary schools. The questionnaire included five constructs (Cronbach's Alpha = 0.955) with 17 quantitative items and 1-5 Likert scale: Pedagogical, Collaboration, Learning Resources, Time Management and Functional Features. Answers from two open questions were coded into two categories: Positive Experiences and Aspects to Improve. The highest constructs were Learning Resources (3.78) and Functional Features (3.60). The lowest score was Collaboration (2.77). As positive experiences students appreciated the digital experience with Zoom and Canvas and the self-management flexibility for time and space. They recommended improving the interaction with peers and teachers with shorter and more interactive synchronic sessions. Even though there was only one week to prepare for the change from face-to-face to emergency remote distance learning, students had the possibility to continue their education. An updated distance teaching method was improved considering the results of the present study.

Keywords: higher education, digital education, flexible education, Zoom, Canvas, COVID-19

E15   **[97]**

HOME LAB AS A STRATEGY FOR MEANINGFUL LEARNING OF MICROBIOLOGY DURING COVID19 PANDEMIC

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ABSTRACT

Meaningful learning allows students to enrich their knowledge as well as achieve personal growth.For this purpose, it is necessary to identify and address the needs and motivations of students, this can be achieved by implementing novel strategies in the teaching-learning process. Since mid-March 2019, due to the SARS-Cov2 pandemic, face-to-face lectures were suspended in all Mexican educational institutions; this situation forced educators to make drastic changes in teaching dynamics; being the most challenging classes that required the use of laboratories. In the present study this challenge is addressed. The aim of this research was to implement at-home laboratories, during the COVID-19 pandemic, to develop essential microbiology laboratory (ML) competencies and increase student motivation. Didactic intervention was conducted during the spring semester of 2020 with biotechnology students from four ML courses. The methodology was based on using improvised at-home laboratories for their final course project. Students worked in teams to design an experimental strategy, based on knowledge obtained through virtual laboratories, and managed to conduct these experiments with the use of materials found in each student's home they then presented their results where competencies and learning objectives were evaluated. Descriptive statistics, including the analysis of variance and Tukey test with a confidence level of 95% to ensure significant differences, were used to analyze and measure the obtained data trends regarding ML competencies acquisition. Results showed no significant differences in the conceptual understanding of the evaluated subject after the implementation of the stated educational strategy, as part of the digitization of the course provided during pandemic confinement; these observations allow us to conclude that the implementation objective for compliance with the ML competencies was effectively achieved.

Keywords: Home laboratory, Microbiology, Educational innovation, Higher Education

E16   **[98]**

ACADEMIC CONTINUITY OF CLINICAL TRAINING IN POSTGRADUATE MEDICAL EDUCATION AMID THE PANDEMIC

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ABSTRACT

The pandemic has posed many challenges for the academic continuity of clinical training. The social responsibility of universities and the professionalism of physicians inspired residents on taking the leadership in the front line of COVID-19. Their direct involvement in patient care required the establishment of protocols to offer mentoring and support services for self-care and mental health strategies to prevent burnout. The objective of this study was to design a comprehensive strategy to transform the Multicentric Program of postgraduate medical education in northern Mexico to continue clinical training amid the pandemic. The participants in this study include six training centers which represent 290 physicians in 17 medical specialties programs. The results of the designed strategy focus on three specific activities: 1) offering formal curricular elements through online platforms and mobile devices, 2) adaptative clinical training for the residents participating directly in SARS-Cov2 patient care, and 3) specific training on COVID-19 for all participants on patient safety protocols and use of protective equipment. The responsibility and responsiveness of educational institutions to address the challenges to continue the clinical training during the health crisis, will significantly affect the educational results and preparedness of the next generation of health professionals. The commitment of universities should be beyond academic continuity or sharing content online, it should address as well self-care and wellbeing strategies that could provide graduates with the skills that are essential to thrive in the current pandemic.

Keywords: higher education, educational innovation, postgraduate medical education, residents education, COVID-19

E17   **[99]**

AN INNOVATIVE HYBRID MENTORING PROGRAM IN POSTGRADUATE MEDICAL EDUCATION AMID THE PANDEMIC

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ABSTRACT

The objective of this study was to design, implement and, amid the pandemic, transform the Mentoring Program for Medical Residents in a Multicentric Program of postgraduate medical education in northern Mexico. The purpose of the Program is to improve residents' educational outcomes and support their personal wellbeing and future career plans. The participants in this study include six training centers, 290 medical residents and 122 clinical professors of 17 Residency Programs certified as mentors in a specific Faculty Development Program for Mentors. The implementation began in August 2018, Residents of 16 medical specialties participated in the selection of their mentor and had 2 meetings per semester. In December 2019, feedback surveys were applied to residents of 5 programs (n=54), 59.2% (n=32) answered the survey, 21.9% had more than two mentoring sessions; 31.3% two sessions; 19.4% one session, and 25.8% none; 84.4% of the residents were satisfied with their mentor and 75% considered the program relevant in their training and future career decisions. Due to the pandemic in May 2020, an online format was implemented to register mentoring sessions, to date 169 residents participated, 27.9% (n=48) reporting 1 session, 22.1% (n=38) reporting 2, 47.9% (n=81) reporting 3 or more, and 1.18% (n=2) none or other. A virtual meeting was the most common (47.3%, n=80), followed by a face-to-face meeting (30.2%, n=51), and the main topics addressed were support networks, personal and academic goals, and responsibilities as resident. This strategy aims to strengthen the processes of clinical training, professionalism and humanism in medicine, and to highlight the social responsibility of the profession in order to contribute to the well-being of health professionals in training and patient care.

Keywords: higher education, educational innovation, postgraduate medical education, mentoring, medical residents, COVID-19

E18 [100]

HUMANISM IN TIMES OF PANDEMIC: ONLINE CLINICAL SIMULATION FOR THE DEVELOPMENT OF ETHICAL COMPETENCIES

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ABSTRACT

A clinical simulation exercise was redesigned and transformed to an online synchronic simulation via Zoom platform due to the SARS-COV2 health contingency and the cessation of face-to-face activities. The participating groups of medical students (n=53) were in the Bioethics and Clinical Bioethics courses, adjunct to their Pediatrics and ObGyn clerkships in June 2020. Two simulated clinical cases were performed via Zoom in coordination with the Simulation Center, followed by a debriefing session. Later, an online survey was applied to the participants to know their perception and experience with this new version, considering they had experienced the original face-to-face simulation on the alternate clerkship the prior trimester. The results showed that the virtual format was very effective, 72% considered it very similar to the original version. The exercise revealed high emotional commitment, allowing students to develop their socio-emotional skills. Student reactions were categorized and coded as emotions triggered by a) their performance as professionals, b) those related directly to the patient's emotions and situation, which showed significant gender differences, and c) students' anxiety related to the academic exercise itself, the least found. The fact that the clinical component was restructured due to the remote format may have helped in focusing on the preponderance of emotional, communication and relational aspects of the patient-doctor relationship. Also, most students identified the exercise was meaningful in approaching bioethics contents, including end-of-life decisions and patient care, and informed consent. In conclusion, the online clinical simulation activity proved effective in integrating professionalism outcomes that encompass ethical knowledge, skills and attitudes that prepare medical students for their professional role, along with the debriefing reinforcing insightful learning integration.

Keywords: higher education, educational innovation, simulation, ethics, professionalism, COVID-19

E19 [101]

EXPERIENCE OF OPHTHALMOLOGY RESIDENTS USING SIMULATION DURING PANDEMIC

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ABSTRACT

During the pandemic, medical residency programs were affected by the closure of clinics which translated to the reduction of clinical and surgical procedures they performed. To continue offering the procedural experience, many programs turn to simulation and skills labs to offer practice, assessment and feedback to guarantee skill acquisition. The objective of this study was to analyze the simulation experience developed in the ophthalmology program to offer a procedural experience for students. A quantitative approach with a descriptive and cross-sectional design was considered. The sample consisted of 21 residents from the Multicentric residency program in northern Mexico, and from different stages of the program. Participants answered an online survey with 10 items regarding different elements of the simulation practice: the procedures and simulations they performed, the frequency of participation, and their perspectives if the competencies were achieved and how closely that mastery can be translated to professional practice. The results were obtained for 9 different types of simulations. First-year residents used the simulation the most(40%), and 75% performed practices only once. 55% of the practices were in live animal models, 70% of the students valued their performance on an acceptable level of performance. 75% of students consider these practices effective to develop their skills, and believe these skills are transferable to clinical settings. Although 31% think the experience is comparable to what they would have encountered without the pandemic. These practices can be incorporated into other residency programs, and focused practices for undergraduate health programs even after the pandemic as the lessons learned could yield to students graduating more prepared in the different procedures they would face in their professional settings.

Keywords: Educational innovation, Higher education, Simulation, Medical education, Academic competency, Residency programs.

E20   **[102]**

VIRTUAL CLINICAL PSYCHOLOGY LAB: DEVELOPING SKILLS AMID THE COVID-19 PANDEMIC

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ABSTRACT

With the emergence of the lethal COVID-19, and its expansion worldwide universities were forced to implement distance-based educational models. One of the objectives of higher education is to guarantee the acquisition of competencies which in the pandemic posed a challenge specialty for health education students due to the limited involvement in the clinical laboratories. To offer learning opportunities for the psychology students, a Virtual Clinical Psychology Lab was developed to offer simulation practices in a controlled environment. The objective of this study was to assess the effectiveness of this educational innovation in promoting the strengthening of assertive communication skills with patients, decision-making, and clinical judgment. The study considered a mixed-method approach with a sequential design with a quantitative and then a qualitative phase. The sample for the quantitative phase consisted of 38 undergraduate psychology students enrolled in their last year of the program, and the qualitative of 9 specialists that participated as faculty members in the last trimester of 2020. The results show that students highlighted the importance of the laboratory practices to obtain the practical experience the psychologist need even if they were conducted online. They emphasize that the feedback they received afterwards made them feel more confident about performing in a real-life setting. Faculty members involved in the design of the practices argue that it was important to include different simulation techniques such as standardized patients and role-playing, and multiple clinical cases that can contribute to clinical reasoning and judgment. This experience can be translated to other health professions to provide structured educational opportunities for learners, that target the development of their clinical skills despite the pandemic.

Keywords: higher education, educational innovation, Psychology education, COVID-19, pandemic adaptations, simulation

E21   **[103]**

SELFCARE AND WELLBEING AS PROFESSIONAL COMPETENCE IN THE COVID-19 PANDEMIC: HYBRID RESIDENTS´ WELLBEING PROGRAM

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ABSTRACT

International studies have reported that quality in patient care and safety, as well as the personal well-being of resident doctors, may suffer a detriment if a highly demanding or hostile clinical training environment is present. The objective of the Professionalism and Wellbeing Program for Medical Residents implemented by a university in northern Mexico is to integrate strategies for the development of wellbeing as a professional competence, and to contribute to strengthening clinical training environments, with the intention of improving personal selfcare, wellbeing, and patient care. The program was implemented with the 290 medical residents of the 17 specialty programs from March 2019 and, additionally, an hybrid model was implemented due to the COVID-19 pandemic from April 2020 to date. In february 2019 and 2020, medical residents participated in the induction sessions of the Professionalism and Wellbeing Program and at least in 3 sessions through the semester, in 2019 face-to-face and in 2020 virtually. The chiefs and co-chiefs of residents were trained in a Workshop so they could help other residents in adverse situations. Among the virtual strategies, we implemented an online website, an electronic form for residents´ wellbeing and mentoring follow-up, individual virtual counseling and Balint groups in Zoom. From march to November 2020, 249 residents registered their follow-up in the electronic. The topics of greatest interest for discussion selected by the participants (n= 51) in the Balint group sessions were: emotional well-being in health professionals (94.1%) and burnout syndrome (94.1%). These initiatives aim to strengthen the training processes of education, professionalism, and humanism, with the residents as an expression of the social responsibility of the profession to contribute to selfcare, wellbeing, and patient's care.

Keywords: higher education, educational innovation, postgraduate medical education, residents education, wellbeing and selfcare, COVID-19.

E22   **[104]**

EVALUATING THE IMPACT OF "WORK FROM HOME POLICY" ON JOB PERFORMANCE IN INDONESIA

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ABSTRACT

To determine the effect of work-from-home on job performance. It proposes work environment, job satisfaction and work motivation as mediating variables, and answers how work-from-home affects employee performance through them in Indonesia. A total of 713 valid respondents who answered the questionnaire came from employees in Indonesia, which were obtained from online social media. The data were tested for validity and reliability with SPSS 25.0 software, then the model was analyzed using Structural Equation Model (SEM) using AMOS 23.0 software. Based on statistical data processing it is known that working from home employees experience greater work motivation so that it can improve job performance, but it has no relationship with job satisfaction and work environment. The study has implications for business practitioner who intend to measure the effectiveness of their work-from-home policies. This is especially pertinent during the Work from Home policy. The original contribution of this study lies within its questionnaire that has been attuned to changes caused by Work from Home policy. This paper offers an important contribution on how the perception of work from home implication to job performance in human resources management academic.

Keywords: Work from Home, Job Performance, Work Motivation, Work Environment, Job Satisfaction

E23   **[105]**

PROFILE OF STUDENTS' PSYCHOLOGICAL NEEDS IN THE COVID-19 PANDEMIC ON GUIDANCE AND COUNSELING SERVICES

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ABSTRACT

COVID-19 pandemic made changes in the education system and that is provide changes to the needs of students during school. In this case, school counselor need to make adjustments to services based on the needs of learners during the pandemic. Researchers aim to find out the profile of the needs of learners during the COVID-19 pandemic. The method is quantitative descriptive and sample technique is purposive sampling. The instrument is Student Needs Questionnaire (AKPD) that prepared based on the standards of self-reliance of learners (SKKPD) that was adapted to the COVID-19 Pandemic in which schools implement distance learning. The result is the average of the basic aspect of religious life is 0.19, the ethical behavior aspect is 0.2, the aspect of emotional maturity are 0.52, aspects of personal development are 0.69, aspects of self-readiness to marry and have a family are 1.2, aspects of social responsibility are 0.14, aspects of maturity of relationships with peers are 0.67, aspects of gender awareness are 0.3, aspects of intellectual maturity are 1.1, aspects of entrepreneurial behavior are 1.57, and last the aspect of insight and career readiness are 0.79. The T-Test obtained sig value. $p=0.497>0.05$. The conclusion is that the needs of learners during the COVID-19 pandemic are not high. So that school counselors can focus on the medium category, namely aspects of entrepreneurial behavior, readiness to marry and have family and intellectual maturity. Furthermore it is known that there is no difference between the needs between male and female students. From this research, school counselors can adapt guidance and counseling services during the COVID-19 pandemic to the needs of students.

Keywords: Guidance and Counseling, COVID-19, Students

E24 [106]

REPRESENTATION OF MULTILITERACIES APPROACH IN STUDENT'S ACADEMIC SPEAKING PRACTICE DURING PANDEMIC

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ABSTRACT

University students as the millennial generation may have many obstacles in interacting among others both direct and indirect especially in fostering their academic speaking skill. As the international issue Corona Virus Diseas-19 has changed many things in this year, also in learning and teaching model. University of Muhammadiyah Tangerang implements a blended teaching and learning at that moment to keep the generation are light up. On many occasions start engaging students' speaking skill through online group/ social media assumes quite effective, beside of follow the national rules because of this pandemic era, also because of the lecturer of speaking class would like to implement the multiliteracies approach. Althought there have culture diversity, digital weakness, motivation, learning style, but when multiliteracies come those are really helpful. Multiliteracies as the potential approach to engage university students to be able to find their own way to learn, especiallay in English language class. This research aimed to report the data analysis regarding to multiliteracies as the potential approach to encourage student's academic speaking skill. 30 students of Universitas Muhammadiyah Tangerang- Indonesi are chosen to be the sample in this research, because in this university especially for 4th semester students, they are required to present their material/ project in direct and inderect English method and academically. This research shows that multiliteracies as the current approach has much benefit for teaching and learning academic speaking class, because they are not only encouraged in learning directly, but also online learning with many creativities. Multiliteracies model also introduces many kinds of literacy to students, such as reading literacy, listening literacy, speaking literacy, critical literacy, and many others.

Keywords: Multiliteracies, Academic Speaking, Potential Concept

E25 [107]

THE MEDIATING ROLE OF E-SATISTACTION: HOW DOES DIGITAL LECTURING SKILL IMPACT ON LEARNING ENGAGEMENT DURING COVID-19 IN INDONESIA HIGHER EDUCATIONS?

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ABSTRACT

COVID-19 pandemics has generated massive migration of education location, which initially have centralized in the campus to become distributed widely into the homes of the students. Digital lecturing skill, e-satisfaction, and learning engagement are becoming important issues for ensuring the effectiveness of education during COVID-19. This article aims to elaborate about learning engagement in higher educations – state, private, and foreign higher education. and to examine the impact of e-satisfaction and digital lecturing skill on learning engagement. Does e-satisfaction play a mediating role in the relationship digital lecturing skill and learning engagement. This article was based on empirical quantitative and cross-sectional study which involved 1.094 students from 29 state universities, 52 private universities and 19 foreign universities as the respondents. The research model has been structured by PLS based Structural Equation Modelling and the data were computed by SmartPLS version3.0. The result explains that digital lecturing skill impact indirectly on learning engagement of higher education students on online learning activity during COVID-19 time. e-Satisfaction of the students is playing as mediator on relationship between digital lecturing capability and learning engagement. For improving learning engagement of higher education students in Indonesia, the institutions should give attention on the improvement of lecturing skill of lecturers as well as improvement in communication and usability, instructional content, teaching process, and interactive evaluation as main elements of e-satisfaction during online learning in Indonesia higher educations.

Keywords: holistic work engagement, Rasch Model, Structural Equation Modelling

E26 [108]

ONLINE TEACHING IN LOCKDOWN: ANALYSIS OF THE USAGE BEHAVIOUR OF COLLABORATIVE TOOLS BY STUDENTS AND TEACHERS IN THE CONTEXT OF UNIVERSITIES OF APPLIED SCIENCES AND VOCATIONAL SCHOOLS

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ABSTRACT

Due to the current COVID 19 pandemic, many changes can be observed in almost all life situations, thus also in the educational sector. In this context, concepts of learning counselling are to be given more attention. Therefore, this contribution to the conference examines the question of how collaborative online-tools to support the teaching-learning processes in the context of higher education and vocational schools are utilized. For this purpose, the frequency of the usage of tools such as tests and forums on an open-source online learning platform ILIAS is analyzed and discussed. In addition, the Adobe-Connect web meeting software to be used in online teaching scenarios is also included in our investigation. For this project, the research team carried out an online survey at one university and five vocational schools in three German mid-sized cities between 5 and 12 June 2020. Survey included the following measures: Single answers, multiple answers, questions of scale and free text questions. The respond rate at the university was 25.10 % and at the vocational schools 17.2%. The data were evaluated using descriptive statistics to determine frequency distributions and mean value calculations. This contribution will lead to a discussion with regard to the continued disclosure of the learning potentials of the tools. The result shown suggest that the development towards virtual teaching scenarios, which has become a necessity under the forced conditions of the lockdowns, has an tremendous effect on teaching and learning processes in the future in terms of didactics tailored to different target groups and needs in and outside the classroom.

Keywords: Learning consulting, collaborative learning, ILIAS, AdobeConnect

E27   **[109]**

MUSICAL EDUCATION FOR PANDEMIC TIMES: STRATEGIES AND RESOURCES FOR MUSIC TEACHING IN PRIMARY EDUCATION IN SPAIN

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ABSTRACT

The health crisis caused by COVID-19 has led to significant challenges for Primary Education teachers during confinement. Schools have had to adapt their organization for non-face-to-face teaching. In addition, teachers had to revise the methodological strategies, incorporating new technologies into home-based learning. Taking into account the advance of the pandemic it is necessary to investigate teaching practices and the use of new technologies in the different curricular subjects. In this proposal, we delve into the digital tools and resources used by teachers in musical education in Spain, identifying musical teaching practices in Primary Education during the pandemic. It is a quantitative and qualitative research based on a non-probabilistic sample of five hundred music teachers throughout Spain. In this way, we consider the organizational aspects of educational centers for the management of virtual teaching. In addition, we take into account the previous training of teachers in new technologies, as well as their motivation towards remote teaching, considering the emotional effects derived from the state of alarm. Likewise, we value the involvement of families in educational processes in music. Thus, we analyze the teaching proposals according to the different contents that musical education implies in Primary educational stage, in terms of listening, musical interpretation and movement and dance. It is necessary to add that this research motivated the creation of a virtual community of Spanish music teachers through social networks, to share experiences and educational resources, for non-face-to-face or blended education depending on the future impact of the pandemic.

Keywords: Musical Education, New Technologies, Digital Learning, Primary Education, Home-based Learning, Education in Spain

E28 [110]

NO VACATION FOR MISSION: MOTIVATIONS AND BENEFITS OF VOLUNTEERING DURING THE COMMUNITY LOCKDOWN CAUSED BY THE COVID-19 PANDEMIC TO THE STUDENT VOLUNTEERS OF DE LA SALLE UNIVERSITY, MANILA

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ABSTRACT

Student social formation programs targeting student volunteering and service learning are directed at boosting civic behavior among young people. This research shows the explanations and rates at which student volunteers of the University, De La Salle University (DLSU) in Manila, which has its own Center and program for Student Social Formation, a program made to encourage student volunteerism in the University, under this program there are two active youth organizations, The Lasallian Outreach and Volunteer Effort (LOVE) and the De La Salle – Red Cross Youth (DLS-RCY). The research reveals that high rates of student volunteering and would also introduce the reasons as per why Volunteerism is still prevalent even during community quarantine. The purpose of this study is to identify the gains of being a volunteer student especially in the lockdown period caused by the pandemic and would be a basis to encourage to create new programs and activities for volunteer groups in times of health crisis. The researcher conducted a Focal Group Discussion recorded via Zoom in over 20 student volunteers of the Center for Social Concern and Action (COSCA) Volunteers of De La Salle University who will be asked on the factors by which how volunteering and program development works even during community lockdown. For a conclusion, the researcher would disclose that student volunteers were influenced by a mix of motivations and benefits, with differences on a continuum of volunteer involvement enhanced by the blended learning practices started by the university and boosted during the lockdown.

Keywords: COVID-19, Student Volunteer, Community Quarantine, Blended Learning

E29   **[111]**

EMPOWERED EDUCATORS EMPOWER LEARNERS: UNDERSTANDING THE EMERGING ISSUES OF E-LEARNING IN ALGERIA DURING THE COVID PANDEMIC

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ABSTRACT

The COVID-19 pandemic presents an extraordinary global challenge, impacting profoundly the sections of health, economy and education. The Corona virus pandemic has changed the sector of education forever, since many scholars say it will never be the same. In early 2020 and due to the pandemic, schools were shutting down all across the globe; however, most countries found a way around this issue by offering online or blended classes, and Algeria was no different. Most universities started using Moodle, i.e. a learning management system (LMS), to deliver online classes in Algeria; however, educators, administrators and students are enduring challenges when it comes to utilizing this system. This study investigates the online teaching issues as perceived by university instructors at Kasdi Merbah University, Ouargla (UKMO). We conducted 150 surveys and zoom interviews to collect both quantitative and qualitative data. Obtained results show that the majority of instructors are in need of online education trainings. We suggested a syllabus for a prototype training directed to UKMO in an effort to empower educators so they can empower their learners and make this e-learning experience somewhat easier.

Keywords: COVID pandemic, Educators, empowering, online teaching

F1   **[112]**

PARENT-TEACHER-LEARNER COLLABORATION IN MODULAR DISTANCE LEARNING

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ABSTRACT

In the advent of pandemic due to COVID 19, modular distance learning became the mostly implemented approach in many schools in the Philippines – the school prepares and distributes learning materials, students stay at home while performing learning tasks, while parents assist in supervision. This study dealt with the role of parents, teachers and learners as they collaborate and bring about the best in education amidst pandemic. Fifteen respondents constituting of parents, teachers and learners participated in this qualitative research. Ten questions were solicited through Google forms on a weekly interval as the modular distance learning was being implemented in Talangan Integrated National High School, Nagcarlan, Laguna, Philippines. Qualitative questions pertaining to parents' assistance and supervision, preparation of modular and supplemental materials, provision of feedbacks, and learning habits were sent for the respondents to share ideas based on their experiences. Data were encoded, processed through word cloud generator, interpreted, and analyzed thematically in order to construct conclusion about meaningful collaboration amidst pandemic. Themes developed encompassed parents, teachers and learners contribution in collaboration. Parents' hindrances to collaboration can be classified as internal and external in which, both can be mitigated through school intervention. Teachers can motivate parents in the process of collaboration when they reach out, give quality time and show real concern for learners' interest. Teacher feedbacks are important element of collaboration because learners are motivated through corrective measures and parents are informed if close supervision was needed. Learners are advised to avoid cramming, procrastinating and distractions, and set goals for themselves associated with every modular lesson. Recommendations were laid down to school heads, teachers, and community partners, institutionalizing modular distance learning if pandemic still prevails.

Keywords: parent, teacher, learner, modular, feedback, education

F2   **[113]**

IMPLEMENTATION OF ONLINE LEARNING IN THE INDONESIAN CIVIL SERVICE: ARE WE THERE YET?

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ABSTRACT

COVID-19 is just the latest of a series of disruptions to the world's economic order. Even before the pandemic, business models were being transformed by globalization, urbanization and disruptive technologies. Almost every aspect of our lives is undergoing rapid change at an unprecedented pace. COVID-19 has accelerated not only the way we work but also how workforces learn, collaborate and communicate. The pandemic has also seen a rapid pivot to e-learning interventions, resulting in a rebalancing of power relationships between teacher and learner. An e-learning environment requires learners to take a more active role in their own learning. As learners seek out greater active participation and engagement they demand a greater role in the learning process (Seta, Hidayanto, & Abidin, 2020). Human capability programs in Indonesia of the 'Teacher-centred' style are losing cultural relevance and as a result experiencing a dynamic movement towards a more 'Student-centred' approach. The implications of which are that trainers need to perform new, more non-traditional roles as mentors, coaches and learner guides (Fairman, Voak, Abdullah, & Indarjo, 2020). As a consequence of these changes, there is a need to urgently reconcile this issue of the classical teaching approach in Indonesia. This paper examines the learning and development programs as implemented by the Institute of Public Administration (LAN), which is largely responsible for building human resource capability across the Indonesian civil service (Murti, 2020). During the COVID-19 pandemic, LAN has pivoted from their 'classical' forms of training towards 'online learning'. The impact of this 'shift' has raised a number of challenges for LAN staff and the role they play in developing Indonesia's human capital.

Keywords: human capability development, applied learning, skills development

F3   **[114]**

GROUNDWATER CONSUMPTION, QUALITY AND ECONOMICS IN A HIGHER EDUCATION INSTITUTION: A WATER SUSTAINABILITY INITIATIVE

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ABSTRACT

The demand for groundwater in a Higher Education Institution is very imperative since it's the only source of water, all were drawn from its deep wells and shallow wells. The land areas were all occupied by buildings and concrete roads, only two parks have spaces with soil. Thus, the groundwater consumption, quality, and economics of a Higher Education Institution were evaluated. The mixed methods of research were used, checklist, questionnaire, and secondary data from the different offices were made to gather data on the status of the groundwater consumption in terms of water supply facilities and fixtures, the microbiological and physicochemical properties of groundwater to monitor the water quality, the cost of the extracted and distributed groundwater for its economics, including the problems encountered by the stakeholders on water supply and the proposed groundwater sustainability management plan. The volume of groundwater consumption was computed based on the formulas in the Philippine Plumbing Code, the laboratory tests results were compared with the Philippine National Standard on Drinking Water, and the cost of water facilities and fixtures were taken from the office in charge of infrastructure development. The faculty members, non-teaching personnel, and students were interviewed about the problems encountered in the water supply, and based on the results of the study a Water Sustainability Management initial plan was proposed.

Keywords: groundwater, consumption, water quality, economics, water sustainability

F4 [115]

MEDICAL STUDENTS' PERCEPTION OF CREATIVE LEARNING IN THE DIGITAL AGE

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ABSTRACT

Future doctors must be empowered to face the ever-changing technology and associated health problems in the digital age. Educationists have expressed the need to enhance creative learning in the traditional medical education curriculum. This research aims to determine how the current medical curriculum enhances the learners' creativity in our faculty. The authors used a semi-structured interview to explore six medical students' opinions in preclinical and clinical phases. This research will provide stakeholders with data about the activities that enhance learners' creativity. The students expressed that small groups of teaching and learning, such as problem-based learning, seminars, drama, and debates are the right platforms for practising creative thinking. Similarly, the practical sessions and bedside teaching sessions are platforms to learn creatively and independently. The presence of equipped laboratories, library, and online facilities is adequate for students to learn independently and creatively. On the other hand, students found that lectures are less motivating because it is one-way teaching. Students found that having a tight timetable does not allow them to practice creativity in academic and social activities. Some got problems with the internet connectivity in their places which limited online education. We suggest that improving online infrastructures services within the campus could be improved to enable the learners to enhance creative distance learning , senior educators should be empowered to use e-learning tools to deliver the sessions more efficiently. Finally, to decongest the timetable to enable the students to learn independently and creatively. Producing graduates who can think creatively will enable them to handle the digital age's uncertainty more effectively.

Keywords: creative thinking , medical, distance learning, interview, connectivity

F5   **[116]**

CRACKING THE CODE: MORPHOLOGICAL DECODING OF ZILLENNIAL SLANG

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ABSTRACT

The use of internet and telecommunication technologies have truly shaped the way Filipino youth under the Generation Z communicate, contributing to the development of a whole new variety that defines internet culture. This study investigated the use of neologisms in social media using twitter by the Generation Z. It considered how the words are formed with example of processes that the Zillennial's neologisms undergo. This study was guided by its aim which is the determination of how Twitter neologisms deviate from the use of Philippine English using the linguistic levels of analysis. The study looked on the factors that lead to the production and usage of the social media neologisms. And, the study focused on the effectiveness of social media neologisms in communication. Stated in the theoretical framework that Lexical pragmatics was utilized due to its ability to explicate how the hearer is able to understand the word from the concept communicated. It was explained under the different processes such as lexical narrowing, lexical broadening and categorical extension. The investigation found that: web-based social networking neologisms go astray from the standard utilization of Philippine English at various levels clarified through phonetic portrayal, the deviation was seen as an approach to ease correspondence among the online clients. At last speed of correspondence, curtness time-affectability, simplicity of understanding and introduction were among the components used to avow that internet based life neologisms are viable in correspondence.

Keywords: Zillennial, twitter, neologism

F6 [117]

FIRST AID WEEK: DEVELOPMENT OF INTERPROFESSIONAL COMPETENCIES BY REMOTE TRAINING

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ABSTRACT

First aid training is a fundamental requirement for healthcare programs. For Tec21, there is a week dedicated to educating students in this topic. The COVID-19 pandemic forced the faculty team to redesign the First Aid Week from face to face training into a remote learning practice. The purpose was to assess the perceived value of competencies learning, considering first aid emergency skills and collaboration. The method was quantitative with pre-test and post-test (Cronbach alpha 0.93 and 0.97). The difference between expectations (pre-test) vs. achievements(post-test) was analyzed with Expectation Confirmation Theory (Olivares et al. 2019), which classifies results as positive confirmation (+DC), confirmation (C), and negative confirmation (-DC). A total of 253 students participated from Physician and Surgeon, Nutrition and Wellness, Dentistry, Psychology, and Biosciences. Four items were related to accident preventive teaching, basic life support, psychological first aid, role designation, and teamwork communication. Day one was about introduction and prevention. On day two, students learned about triage and self-directed group simulation. Third day included a CPR practice (using a DIY mannequin). On day four, students had lectures on psychological first aid and a role-playing activity with peers and instructors. Results indicated +DC on both competencies. First aid skills average was 3.34 (pre-test) and 4.84 (post-test) with a p-value of 0.00. Collaboration was 4.53 (pre-test) and 4.77 (post-test) with a p-value of 0.00. Interprofessional Healthcare Education promotes collaboration to enhance the quality of patient care. The distance teaching format was not a barrier to learning. The lack of commercial mannequins was replaced with low-cost simulation activity from home. This innovative immersive week helped students learn about first aid and increase their ability to respond to basic emergencies.

Keywords: First aid, remote learning, competencies learning

F7 [118]

QUALITATIVE EXPLORATION OF SOCIAL FACTORS THAT UNDERLAY MOTIVATIONS OF MEDICAL STUDENTS TO ASPIRE TO THE PROFESSION

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ABSTRACT

Aspiring physicians' motivational discourses have mostly delineated intrinsic versus extrinsic factors in the literature, lacking further comprehension of factors underpinning such decision. The purpose of this qualitative study is to deepen the understanding of factors and motivations that lead students to aspire to the medical profession. Semi-structured interviews were applied to 55 medical students from 3 Universities in Mexico, transcriptions were submitted to iterative rounds of coding for analysis using grounded theory. Predominant reasons to enter the profession were: I) Interest in the medical science, II) Aspiring to honorability and status, III) Having a physician family member, IV) Personal experience with illness and V) Desire to help (altruism). Beyond discourse, one striking finding was that most chose their career lacking conscious reasoning and autonomy either because a) ideation/decision was conceived during childhood, b)lacked clear motivation arguments and c)had significant external influence (particularly from parents) on their choice. Such findings helped develop a model that recognizes factors that underly the conscious motivations that students exhibit including: 1) Parental desire/pressure. 2) Proximity of family medical models and lack of exposure to other disciplines. 3) Idealization of the doctor figure during childhood. 4) Influence of television programs. 5) The notion that the career ensures future economic stability/prosperity. 6) Desire of social mobility. The prior socialization of students conditions an aspiration based on a perception of heightened professional status of the medical profession that may differ from the current context. The motivations have an extrinsic preponderance and do not reflect autonomy and adequate understanding of the implications of studying medicine and the future practice of the profession. This can generate problems about their own satisfaction and identity and with respect to the social impact in the exercise of their future role.

Keywords: motivations, medical students, medical profession, status, qualitative methods

F8 **[119]**

TEACHING VERY YOUNG LEARNERS ONLINE: HOW TO KEEP CURIOUS MINDS CURIOUS IN A DIGITAL WORLD

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ABSTRACT

Teaching very young learners is one the most challenging, yet, most rewarding things in the field of TEFL. Teaching preschoolers and kindergarten students focuses on teaching the language by creating experiences. However, how feasible can this be at the time of the pandemic when classrooms turned into virtual classrooms and EFL teachers of very young learners had to face a new set of challenges? This paper is about teaching English to very young learners (4-6 years old) online. The paper explores some of the key characteristics, needs and strengths of the very young learners and the challenges of online education with those age groups, and then goes on to examine the practical implications as these relate to our planning and teaching methodologies. Finally, it focuses on how teaching very young learners means exposing students to the target language through messy play, CLIL, Art, storytelling and activities that place the child in the centre of the learning procedure, giving them reasons to use the language and engaging them meaningfully through fun and creative activities, even when lesson take place online, in a Digital World.

Keywords: preschool, education, kindergarten, multisensory, online

F9 [120]

DIGITAL LEARNING VERSUS PERSONAL CONTACT. PROBLEMS WITH UNIVERSITY STUDENTS AND THEIR ATTACHMENT TO THE TRADITIONAL LECTURE FORMAT

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ABSTRACT

University students tend to be very demanding. Many contemporary students are afflicted by a variety of personal problems, possibly including depression, but the most serious issue in evidence at university lectures is that students are overactive and find it difficult to sit still through a whole lecture. Using digital learning, e.g. online lectures, could be seen as solving this problem, as students do not talk during the lecture and the lecturer has no problems with noise or other disturbance. But students attending university classes long for 'normal' personal contact. This is especially noticeable during the COVID-19 period. Switching to online learning eliminates the issue of lecture hall disturbance, but creates new problems. In surveys, students complain that they would like to go back to real learning, and that digital classes cannot replace face-to-face contact with the lecturer. But how to deal with the problem of students becoming restless during traditional lectures? In my 10 years practice as a lecturer at various universities in Poland and as a visiting professor, I have noticed that students tend to be more patient during the lecture if they have an impression that they are being watched. Techniques such as reading students' names aloud help lecturers to keep students' attention. Instead of asking students to calm down, lecturers can address some special personalized communication to them that would encourage them to listen and not talk or play video games during the lecture. Digital tools do not give students the same impressions and have to be used in a more sophisticated way to replace the face-to-face contact with lecturers.

Methodology: observation (10 years period) and survey (COVID-19 situation)

Conclusion: personal contact is better; we should try to give the students the impression of personal contact also in digital teaching

F10 [121]

DISTANCE EDUCATION AND BEYOND: A STUDENT VOICE RESEARCH TOWARD AN ECOLOGICAL PERSPECTIVE

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ABSTRACT

The lockdown forced us to switch from face-to-face to distance education, prompting us to rethink the learning-teaching processes and triggering new fragilities. The "digital divide" but especially the "digital inequality" exacerbated the disadvantages of students who were already vulnerable, as students with disabilities or difficulties also due to educational poverties. So, within the theoretical framework of Social Justice Education (according to Cochran-Smith), we designed a qualitative project involving both students and teachers, to collect representations and perceptions of distance schooling via semi-structured interviews (we followed two validated protocols). The project was implemented with 13 university students working as support teachers and educators from Primary to Secondary School; in turn, they interviewed 10 pupils, aged between 7 and 13 years, with special educational needs (learning disabilities, behavioral and emotional disorders, language problems, or family discomfort). We configured a Student Voice participatory research which guaranteed the right to express and participate in redesigning educational processes to both working and school-going students, also pursuing the teacher training within the social justice. These interviews were video-recorded, transcribed and analyzed with the constructivist Grounded Theory methodology, using the ATLAS.ti software. Data led us to results that show issues that would have deserved a responsible response before the lockdown: the need of a multi-level networking emerges, as well as the feeling of in-presence schooling as a real "living-learning space". Results reveal the attempt to redesign learning environments by students themselves; most importantly, the practitioners' awareness of distance learning issues opens up a new ecological perspective of educational fragility (not only of people, but also of educational contexts), which could contribute for new in-depth knowledge-construction tools in support of practices.

Keywords: distance education, social justice, special educational needs, Student Voice, teacher training, educational fragility

F11   **[122]**

CLASS ENGAGEMENT USING SOCIAL MEDIA

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ABSTRACT

Many adaptations had to be made to classes worldwide amid COVID-19 pandemic and keeping students engaged and interested in class became a priority for educators. This pandemic has posed a challenge since it forced schools to rapidly migrate courses to an online platform. Gen Z class engagement has been an issue for most teachers, because they tend to rapidly drift away from class; this, alongside with anxiety and stress over the future, and loved ones have made class engagement an even greater challenge for educators. Using social media and technology as a tool in class may seem unorthodox but given the main features that distinguish Gen-Z, can be a useful tool to approach and engage them. In order to do so, an activity consisting of a series of posts resembling twitter threads was designed. These posts had to be accompanied by images such as memes and had to narrate an immunological or hematological process, they also had to be presented in a synchronous session to the classmates. In order to assess students' perception of this implementation an online survey was made. Results indicated a perception of fun when developing the posts by students and they stated that it allowed them to integrate curricular content. Digital natives share a unique language and pop culture references that may allow educators to approach and close the gap between generations.

Keywords: medical education, digital education, distance learning, educational innovation, student engagement

F12   **[123]**

DIGITAL LEARNING: PERCEPTIONS OF EDUCATORS WHO TEACH STUDENTS WITH SIGNIFICANT DISABILITIES

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ABSTRACT

How can students with significant disabilities continue to grow and succeed in the classroom world, when that classroom becomes digital? The digital classroom has been amplified and modified for mass usage since the outbreak of the COVID-19 virus and its spread around the world. This study uses structured interviews with educators who work with students with significant impairments, wanting to know tier perceptions and experienced opinions about how digital learning functions for students with significant disabilities. The researcher chose the question: What is the educator's perception, based on experiences, on how students with significant impairments can succeed in the digital classroom? In addition to this question, what does success look like in the digital classroom versus the brick-and-mortar classroom? This study is a qualitative study, using in-depth interviews to answer the main research questions and uncover any common-themes that may emerge from the discussion with said educators. This study adds to research on the special needs community, focusing specifically on educator perceptions and experiences, and from real and raw experience, what is thought to be the way forward with students with significant disabilities in the area of digital learning.

Keywords: disability, digital learning, educator perceptions

G1   **[124]**

REMOTE-SYNCHRONOUS SIMULATION OF AN EMERGENCY ROOM FOR MEDICAL STUDENTS

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ABSTRACT

The historical challenge of the pandemic has forced the international academic community to design new learning strategies, exploring ways of teaching and the development of skills through digital education. Particularly in medical education, early hand-on training is vital for the development of clinical skills. Remote simulations pose an innovate opportunity to encourage reflection on performance and the transfer of knowledge towards a demonstrable experience. The objective of this study was to develop and assess a remote-synchronous simulation experience. The study considered a quantitative approach with a descriptive and cross-sectional design. The sample consisted on 54 fourth-year medical students enrolled in a distance course on respiratory pathophysiology. The strategy was implemented through remote-synchronous simulations of 90 minutes using a videoconference platform. Students experienced the images, sounds, voices and tension of an emergency room setting. The process considered 3 phases: 1)Design 2)Implementation 3)Reflective moment. To assess the experience students were asked to participate in a survey with a 5-point Likert scale, were 5 depicts a more favorable response. Results show that students believe adapting to the remote-simulation was easy (3.92) and participating in the innovation was satisfactory for them (4.70). This remote-synchronous simulation of an emergency room for medical students provided a significant learning experience and a space for reflection that was highly valued for students. It is important to highlight that it was easy to implement for the faculty members, and it was a low-cost alternative to offer early training experience amid the pandemic. This model is reproducible for other contexts and professions.

Keywords: Educational innovation, Higher education, medical education, remote-simulation, simulation, pandemic adaptations

G2   **[125]**

A MULTICULTURAL EXPERIENCE IN A CONFLICT ZONE. WHAT MEDICAL STUDENTS CAN LEARN

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ABSTRACT

As globalization continues, medical educators must acknowledge the increasing need to create safe spaces for students to incorporate global citizen competencies. Short international experiences are a way in which students can acquire these features. The aim of this study was to generate an international experience in which students could develop their health innovation and cultural competency. Israel was selected as the trip destination due to its multicultural characteristics, innovation centers, and being in a conflict zone. Twenty pre-clinical medical students from Monterrey and Mexico City between 19 - 26 years old and four faculty members participated. Activities were directed towards active listening and analyzing the Israeli and Palestine narratives within the conflict, and inspiring students with the healthcare innovation strategies implemented in this region. We seeked to enrich the students' competencies in a 4 domain framework that include multiculturalism, conflict resolution, health innovation and peacekeeping. Four domains were explored in the survey, with an 85% response rate. The first domain involved multiculturalism where 96% considered they developed skills that enhanced their cultural competency. Regarding health innovation, 94.7 - 96.8% acquired a better vision about solutions to health problems. Regarding peacekeeping, 92-95% increased their appreciation for peaceful solutions to conflicts and 86% learned new ways to distribute humanitarian aid. For conflict resolution, 90-93% of students consider that traveling to a conflict area positively changed their perception of the conflict and exploring cultural contexts helped them understand the situation and come up with solutions. Giving students the opportunity to participate in a short trip to a conflict zone, provided them with intercultural skills and a broader perspective regarding innovative problem-solving strategies in healthcare systems and conflict resolution.

Keywords: Multiculturalism, global citizen competencies, health innovation

G3 [126]

CHALLENGE BASED LEARNING FOR PATIENT CENTERDERNESS: EDUCATIONAL REFORM

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ABSTRACT

The accelerated regulatory, social, and technological changes in the environment demand a versatile doctor able provide customized patient care, long-life learning, complex challenge solver and critically think about their own actions. Employers consider that graduates lack generic competences as responsibility, teamwork and other transversal skills. Therefore, it is necessary to inquire about the readiness to evolve the legacy program into an integrated multidisciplinary curriculum, challenged based and patient centered learning. The purpose of this study was to gather recommendations from organizational leaders, faculty, and students as an input to curricular reform for healthcare programs. It was a qualitative research with a focus group and interviews with 26 leaders, faculty, and students. Focus group participants were leaders who dialogued reflect on the future tasks of healthcare professionals of the future. Eight leaders from associations, hospitals and medical schools remarked the importance on: 1) patient centered care, emphasis on prevention and well-being, 2) professionalism and identity formation, 4) innovation, research and technology, 5) leadership for healthcare systems. Interviews showed that biomedical contents develop critical thinking and self-directed learning. Interviewees recommended starting patient care earlier on the program. Perspectives from different stakeholders helped to develop inter-professional education for five programs. Patient Centeredness is learned from the first year of the programs through challenge-based learning. This approach which started on August 2019 is intended to develop leaders for the improvement of the healthcare systems. Even that scientific and technological advances demand radical change for universities, there are centuries of history that restrain them. At Tecnologico de Monterrey an integrated curriculum with challenges for wellness instead of diseases is now a reality.

Keyword: patient-centered, challenge-based learning, integrated curriculum

G4 [127]

DEVELOPMENT OF DIVERSITY COMPETENCE IN HEALTH PROFESSIONALS

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ABSTRACT

In today's society due to migratory displacements, different ethnic groups and the great existing cultural diversity, it is necessary for health professionals to attend the main demands and needs of the population, because of their different characteristics regarding their culture, sex, religion, language, education, sexual orientation. The aim of this work is to identify the development of diversity competence from the Confirmation of Expectations Theory. The methodology was quantitative, descriptive and transectional. A questionnaire validated by focus groups and Cronbach's Alpha (0.97) was used as a pre-test and post-test to measure the value perceived by the students. It was applied to the total number of students enrolled in the Tec Week activities. The questionnaire was answered by 21 students in the activities Me, you, others, us and Diversity in a globalized world. For statistical analysis, the Wilcoxon test was used. From the Tec Week activities, the results of the Me, you, others, us and Diversity in a globalized world activity show that students identify human rights, the value of diversity, discrimination, inequality and human dignity in their environment close, which allows providing patient-centered care, ensuring that the care received is according to their needs and preferences. The development of diversity competence contributes to the training of health professionals based on human rights and the individuality and characteristics of the patient, expressing openness, interest and disposition towards the diversity that surrounds them.

Keywords: Diversity, Competence, Health Professional

G5   **[128]**

DEVELOPMENT OF CASE STUDIES TO IMPROVE ATTITUDINAL ENTREPRENEURSHIP COMPETENCIES: AN EXPERIMENTAL STUDY WITH STUDENTS FROM TEC DE MONTERREY

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ABSTRACT

The way in which entrepreneurship is taught in universities has a high impact on students' entrepreneurial capacity. In this sense, there have been several studies that analyze the impact that different forms of teaching or educational strategies have on the development of entrepreneurail skills. Different research indicates that the more education concerning entrepreneurship, the more entrepreneurship skills are developed. Other studies report that students that were involved in a more practical and reflective educational model, reported greater intentions of undertaking an entrepreneurial experience. However, none of these studies use the development of "case studies" as a means of developing entrepreneurship skills. Case studies have been a common practice in business schools, but rarely have been tested in experimental studies and changing the role of the students as designers of the case. In this sense, this research project proposes an experimental study, with a control group of 30 students and three intervention groups of 90 students (from fifth semester forward), in order to measure the impact that the development of real entrepreneurs case studies (either of success or failure) had on students. All of this, in order to improve the attitudinal competencies of: (i) problem analysis mentality before proposing early solutions, ii) mentality of testing low-cost solutions before investing, and (iii) data-driven decision-making mentality rather than intuition. Results suggest that there were noticeable improvements in the skills learned by the students. There was a big percentage change in the results of the intervention groups in comparison with the control group (even when the control group also registered improvements). This paper contributes to advance our understanding of how different educational strategies improve entrepreneurship education.

Keywords: Entrepreneurship, competencies, case studies, experiment

G6 **[129]**

THE IMPACT OF THE ADMISSION CRITERIA ON THE STUDENT PROGRESSION AND ACADEMIC PERFORMANCE: A CASE STUDY

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ABSTRACT

Educational organizations take seriously the issue of admission criteria for admitting students into their postgraduate programs, to make sure the selection of quality students (Daduk, Malave, Torres, 2016). Since, there is no universal consensus among the academia, nor among the researchers in the field to which admission criteria is best, at a private Mexican university, a case study was conducted among some online programs to analyze the impact of different criteria:

- Postgraduate Study Admission Test (in Spanish PAEP Prueba de Admisión a Estudios de Posgrado)
- Undergraduate GPA greater than 90/100
- Interview results, for students with GPA below 90.

In this case study, for April 2020 cohort, 252 new students were admitted into our online postgraduate programs. Of which 47% were admitted based on PAEP; 29% based on GPAs, and, 24% based on interview result. In terms of students' progression and academic performance, a statistical equality analysis showed that students admitted using their GPAs did better than their counterparts admitted on the results of PAEP and interviews. . On the other side, the study also suggests that there were no significant correlation effects between the students' progression on the program and the admission criteria. Such outcomes were found across all of the online postgraduate programs studied. The result of the case study suggests that the academic managers and policy-makers alike to rethink about their conventional admission criteria for studying masters programs now and in the future.

Keywords: Admission criteria, Academic Performance, Graduate Average Point, PAEP, Interviews.

References

Daduk, S., Malave, J., & Torres, C. C. (2016). Admission Criteria for MBA Programs: SAGE Open, 6 (4). Retrieved from https://doi.org/10.1177/2158244016669395

G7   **[130]**

DESIGN AND EVALUATION OF A MOOC FOR CLINICAL EDUCATORS

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ABSTRACT

The MOOCs offer education with high quality standards and have the potential to offer better educational experiences within learning communities where students and teachers from multiple institutions and areas participate. Clinical professors need to be continuously trained with new alternatives that reduce the gap of traditional education with the needs of students. In addition, it is essential to move from education focused exclusively on science, towards a comprehensive education focused on the needs of the most important actor: the patient. The purpose was to design, implement, and evaluate a MOOC on educational evaluation in health sciences. The content of the MOOC was designed and developed with the participation of 15 professors from three universities in Mexico. A pilot was implemented during September-October 2019 to train at least 30 teachers from the three universities. An instrument was designed to measure the fulfillment of teachers' expectations. The pre-test was applied before starting the pilot course and the post-test at the end of the program. The tests were answered by 29 of 57 professors, whose data were analyzed using the t-student statistical test. The course was successfully completed by 33 of 57 teachers. The results of the statistical test show that there is a significant difference.The expectations of the teachers who completed the course were exceeded. For the educational proposal to be considered valuable, it must consistently meet the participant's learning needs according to the effort and cost invested. Knowing the perceived value indicates how participants conceive the value of the program. In this sense, MOOCs represent opportunities for teacher training in educational evaluation. The project has great potential for impact at the Latin American level.

Keywords: clinical competence, MOOC, assessment, clinical teachers

G8   **[131]**

THE ROLE OF STUDENT MOTIVATION IN THE RELATIONSHIP BETWEEN LECTURERS TEACHING PERFORMANCE AND STUDENTS WORK READINESS AT THE POLITEKNIK STATISTIKA STIS

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ABSTRACT

One of the problems faced by some graduates from the Politeknik Statistika STIS is their low work readiness. Based on this, a study was conducted on the effect of lecturer teaching performance and student academic motivation on student work readiness. The objective of the study was to determine whether student academic motivation could mediate the relationship between lecturer teaching performance and student work readiness. The research was conducted using path analysis. Data analysis was performed using SPSS. The sample of this study were 183 students who were selected by simple random sampling from 1123 third and fourth year students at the Politeknik Statistika STIS. Data collection was carried out through online surveys. The results of the path analysis show that the lecturers' teaching performance and student academic motivation has a positive direct effect on student work readiness. In addition, student academic motivation was able to mediate the relationship between lecturer teaching performance and student work readiness. The implication of this finding is that student academic motivation has an important role in efforts to improve student work readiness, because in addition to having a positive direct effect on student work readiness, student academic motivation can also increase the influence of lecturer teaching performance on student work readiness.

Keywords: student academic motivation, student work readiness, lecturer teaching performance

G9   **[132]**

THE LIVED EXPERIENCES OF MINDFULNESS PRACTITIONERS ON THE APPLICABILITY OF A MINDFULNESS-BASED INTERVENTION IN BASIC EDUCATION

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ABSTRACT

Background: In the Philippines, local studies in mindfulness are scarce, however, recent published works are slowly rising. Through semi-structured interview, this study explored the lived experiences of twelve mindfulness practitioners across multiple fields of work: teachers in yoga and mindfulness, Buddhist devotee and Nun, clinical and school psychologist, prefect of discipline, Jesuit priest and school administrator, and guidance counselors. Themes were extracted through interpretative phenomenological analysis (IPA). The purpose of the study was to gain insight from the co-researchers' personal and professional lives whether mindfulness is applicable for children in basic education. Findings: Four themes were found: (1) venue for healing, (2) journey within the self, (3) developing character, and (4) cultivating humanism and harmony. Importantly, such themes were corroborated in the research literature. The results of the study suggest that co-researchers believed mindfulness was beneficial and advantageous to manage difficult inner experiences like emotions, thoughts or physical sensations; take skillful action; develop calmness, calm relationships and compassion; be open and tolerant of difficulties; grow in self-understanding, and presence with others; however, several risks and disadvantages were acknowledged. Conclusions: All co-researchers agree on the feasibility of mindfulness to be taught with school youth. Students should be guided by a well-trained mindfulness practitioner. Mindfulness practice may be more suitable for certain individuals than others and may only be effective under certain circumstances. Application of mindfulness in schools must be used appropriately, weighing effectively its limitations, disadvantages and risks. Given today's youth are faced with greater stress, pressure and distraction, mindfulness-based interventions have great potential in the basic education setting since it is characteristically straightforward yet may be effective.

Keywords: K-12, Mindfulness Interventions, Mindfulness School Program, Qualitative, Phenomenology

H1 [133]

INTERACTIVE SIMULATIONS OF STATISTICS WITH EXCEL

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ABSTRACT

In general, students don't understand many statistical concepts and don't use them to solve real problems. The research question that guides the work is whether the simulation of statistical processes can improve the learning in students. The objective is to determine the impact when statistical problems are approached through interactive simulations. A learning-teaching methodology on statistics based on the simulation of processes is presented. This method has four stages. During the first stage, the students tackle different situations through experience and computer simulations. After, small teams are formed where they focus on the properties of the processes under study. Later, a theory is stablished and some problems and exercises are done in class. At the last stage, an online conceptual exam is solved by the students. In the study participated 67 students in two groups. In only one of them, the interactive simulations were used. The learning in both groups is compared using a standard questionnaire. The results showed that the students to improve significantly their performance through the strategy of simulations. The interactive applications used were developed through the Visual-Basic of Excel. The idea consists of generating random numbers that are related to a process with some specific parameters. Later, the process is generalized by considering any set of parameters where real time results and data may be observed by the student. Finally, by using Visual-Basic tools interactive sheets are developed, where the input parameter values can be changed at will. After the subject has been studied and discussed, the interactive sheet is complemented by comparing theoretical and numerical results. In this work, we show these Excel sheets and learning results of students.

Keywords: Excel, Interactive simulation, Inferential Statistics

H2   **[134]**

ANALYSIS OF THE MATHEMATICAL EDUCATOR'S CLASS PLAN: CONSTRUCTING THE NATURE OF THE REAL NUMBERS IN STAGE 4-13

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ABSTRACT

Authors appraise the construction of the real numbers from early childhood education to middle school. We collect qualitative information based on the content analysis to connect with a Bernoulli-type quantitative test through a mixed methodological approach. We analyze content knowledge, pedagogical content knowledge, curricular content knowledge, and reflection of the lesson plans' teaching intervention. The study focuses on a cohort of 250 basic education teachers in Mexico. This research work reveals the weakness of the constructs that teachers present in the aforementioned categories. This lack of categories integration induces numerous structural gaps in constructing real numbers that affect students' significant learning while it hinders the teacher's professional development. Finally, the authors propose a constructivist sequence that points toward understanding the nature of real numbers at stage 4-13.

Keywords: Reflection of the teaching intervention, Constructivism of the real numbers, Lesson plans analysis, Mixed methodological approach, Teachers' knowledge categories

H3   **[135]**

PROMOTING MATHEMATICAL DISCOURSE IN AN ONLINE LEARNING ENVIRONMENT: THE INSTRUCTIONAL POWER OF MATHEMATICAL INTERNET MEMES

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ABSTRACT

Teaching and learning in the 21st-century demand innovation in the learning environment to facilitate the needs of digital native learners. Internet memes are digital artefacts distinct to these digital natives. Considering the popularity of memes and the online learning landscape, this study explored the didactical possibilities of mathematical internet memes used to promote mathematical discourse and significantly improve students' achievement in the online teaching of Mathematics. This study employed a pretest-posttest, quasi-experimental control group design to two intact Grade 10 classes of St. Rita's College of Balingasag to compare students' achievement scores as influenced by the intervention which is the use of mathematical memes. The teacher used mathematical internet memes during online class sessions and administered a meme-making activity where learners create as well as comment on mathematical internet memes. The results revealed that there is a significant difference in the achievement scores between the control group and the experimental group. The implications for this study will be useful for Mathematics educators that mathematical internet memes may be used to promote students' mathematical discourse and improve their achievement in online learning environments.

Keywords: Mathematical Internet Memes, Mathematical Discourse, Achievement, Online learning

H4 [136]

TECHNOLOGICAL PEDAGOGICAL CONTENT KNOWLEDGE (TPACK) AND PERFORMANCE OF MATHEMATICS TEACHERS IN THE PUBLIC SENIOR HIGH SCHOOLS

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ABSTRACT

The research was conducted to determine and describe the relationship of the Mathematics teachers' level of knowledge along TPACK and their level of performance as assessed by them and as observed by their immediate heads. The teachers' socio-demographic profile and level of knowledge were determined using the TPACK Questionnaire. The SAT-RPMS Tool and COT-RPMS Tool were used to measure the teachers' level of performance. Mean and standard deviation were used to determine the teachers' level of knowledge and their level of performance. Meanwhile, the Pearson's (r) moment of correlation was used to determine the relationship between the teachers' level of knowledge and their level of performance; their socio-demographic profile to their level of knowledge and to their level of performance. On the other hand, the point biserial correlation was used to see the relationship of their sex, ICT tools used in the classroom and ICT-related trainings attended to their level of knowledge and to their level of performance. Further, Chi-square test of difference was used to test whether the teachers' level of performance as assessed by them and as observed by their immediate heads are significantly different. Results show that the teachers have high level of knowledge in terms of content, pedagogy, technology, and technological pedagogical content knowledge. They also have a high level of performance as assessed by them and as observed by their immediate heads. Findings show that the teachers' level of performance as assessed by them is significantly related to their CK, TK, PK, and TPACK. Results confirm that performance is an indicator of their level of TPACK and their level of TPACK can be gauged by means of their performance.

Keywords: TPACK, self-assessment, level of performance, observed

H5   **[137]**

MOTIVATION STYLES AND INSTRUCTIONAL PRACTICES IN TEACHING MATHEMATICS: THEIR IMPACT ON STUDENTS' LEARNING

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ABSTRACT

The main concern of the study is to assess the impact of teachers' motivational style and instructional practices on students' learning in mathematics. This study made use of descriptive correlational method of research and the primary data gathering tools instrument was lifted from the Third International Mathematics and Science Study - Repeat (TIMSS-R), an educational research project sponsored by the International Association for the Evaluation of Educational Achievement (IEA). The respondents of the study were the 3500 junior high school students and 33 teachers of Marcelo H. del Pilar National Highschool. Results of the regression revealed that the motivational styles of teachers in terms of autonomy-supportive and controlling produced B coefficients of 2.827 and 2.997. The data could mean that the motivational styles of teachers can directly affect the learning of students in Mathematics, which means the better the teachers' motivational style can yield higher students' learning in Mathematics. The obtained F-value of .872 which was found non-significant at .05 alpha indicates that teachers' motivational styles did not form a very significant set of predictors for the students' learning. Students with autonomy-supportive teachers, as compared with students in classrooms with controlling teachers, were more likely to stay in school. Since motivational styles and instructional practices of teachers positively correlated with students' learning in Mathematics, teachers may continuously motivate and utilize instructional practices that will further improve the achievement of students in Mathematics.

Keywords: Academic Performance, Influence of Teachers, Instructional Practices, Learning Mathematics, Motivational Styles, Students Learning

H6 **[138]**

ADDRESSING TEACHERS' PROBLEMS IN TEACHING MATHEMATICS USING MOTHER TONGUE IN A DISTRICT OF THE PHILIPPINES

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ABSTRACT

The study attempts to determine the problems encountered in teaching Mathematics using Mother Tongue and the possible recourses employed by the teacher respondents in Kalawit District, Philippines. It utilized the descriptive-survey method using weighted mean and ranking system as measures to find out the prevalent problems and the recourses employed to address such. Based on the data gathered and analyzed, the identified problems were language, teaching instruction and teaching material. For language, the top serious problems include no translation of English terms in the MT (Mother Tongue) and inconsistent use of terms in the Learner's Material (LM) and Teacher's Guide (TG). For instruction, the most prevalent problem is on difficulty of understanding the lesson since the medium of instruction (MOI) is unfamiliar, difficulty in the use of MT and in constructing questions for students' quizzes and exams. For teaching material, the incomplete delivery of Instructional Material (IM) is on top followed by insufficient financial support for materials and non-contextualization of LM's. Results further revealed that for language problem, the used of pictures that relates to the MT terms, used of English translation when no terms available and used of other phrases that fit the unfamiliar MT were among the recourses applied. Pertaining to instruction, the recourses include giving of activities that are interesting and enjoyable and teaching by modelling and demonstrating. For teaching material, teachers resort to downloading of MT materials from DepEd's Learning Resource Management and Development System (LRMDS) portal, use of objects found in the immediate environment and use of pictures and context clues in presenting the lesson were among the top recourses employed. All these identified recourses were oftentimes applied by the teachers.

Keywords: mother- tongue, instruction, problems, recourses

H7   **[139]**

LESSON STUDY: ITS POTENTIAL IN IMPROVING THE TEACHING AND LEARNING OF THE APPLICATIONS OF DIFFERENTIAL CALCULUS

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ABSTRACT

The study aims to determine the potential of Lesson Study approach in improving teachers' teaching strategies and students' learning of the applications of Differential Calculus. A problem solving examination was initially given to 231 engineering students to determine the particular application of Calculus where they are weak or struggling to learn. Subject instructors were also interviewed to identify the topic they find difficult to teach. Both groups identified this lesson to be the Related Rates Problem. This topic in three different subtopics was taught to one intact second year engineering class with 36 students using Lesson Study approach. The team of instructors was composed of 6 Calculus teachers: 4 new faculty with no background of the topics served as observers and respondents during the execution of the Lesson Study; one faculty served as the teacher during class discussion; and another faculty served as expert. The study utilized one-group pretest-posttest design for both student and faculty respondents. Results showed that there is a significant improvement on students' level of conceptual understanding of the topics. The faculty respondents also showed remarkable improvement on their knowledge of the subject matter and on how they will deal with the questions throw by the students during discussion, giving them much confidence in teaching the topic. The study recommends to use the same approach in teaching other applications of Calculus to constantly improve students' learning and teachers' knowledge and teaching practices.

Keywords: Mathematics Education, Lesson Study in the Tertiary Level, Calculus Applications, One-Group Pretest-Posttest Design

J1   **[140]**

CAN MEDICAL RESIDENCY ENTRANCE EXAMINATION PREDICT ACADEMIC PERFORMANCE FOR POSTGRADUATE?

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ABSTRACT

Entrance examinations for postgraduate students are used by institutions to value their capacity to perform during their studies and excel in professional practice. The medical field leverages this practice for postgraduate students to select the best candidates to enter a rigorous program where participants are responsible for patients outcomes. Therefore it is important to analyze the quality and predictability of those examinations. The objective of this study was to analyze the predictability of the medical residency entrance examination for academic performance. As part of the analysis, we correlated the academic performance of the 2018 generation of graduates in thirteen medical specialties at Tecnologico de Monterrey, with 64 students' test scores. Academic performance was divided into students who graduated with honors and excellence (scores >90) and without honors. Admission test score has an 800-points total and was classified as high (>600) and standard(>550). The results show that from the participants, 37 had high entrance scores, of those 92% graduated with honors and excellence, and from the other 27 graduates which had a standard entrance score, 78% graduated with honors and excellence. The predictive positive value was 92% and the negative predictive value was 22%, whereas sensibility and specificity were calculated as 62% and 66%, respectively. Tecnologico de Monterrey's admission test had a predictive value in medical specialties academic performance whereas not in negative predictive value, which could evidentiate that the formation in the academic program itself contributed to students' professional and personal development. Factors like this might affect the sensibility and specificity values, further students would integrate more elements of performance scores to have added specificity and sensibility to assess and document performance.

Keywords: Higher education, Educational innovation, Medical education, Academic Performance, Residency programs, Admission test

J2   **[141]**

BEHAVIORAL APPROACH ON THE MEXICAN STOCK MARKET MODELED TROUGH PLS-SEM

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ABSTRACT

Historically economists attempt to analyze the stock market movements through the use of econometric models. Much literature has been using methods like the ordinary least squares (OLS) and regression analysis, which required strict assumptions that must be satisfied for the model validity. Contemporaneous stock markets need better models and the use of different techniques. Advances in behavioral analysis and investor knowledge also require other variables to reflect investors' behavior to study the stock returns. The main objective of this research is to analyze the Mexican Stock market through the most relevant enterprises. We applied a novel approach to create latent behavioral variables, using the current behavioral indicators as reflexive constructs. The proposed methodology to evaluate the relationship among the Mexican market indicators, the chosen shares, and the constructs is through PLS-SEM modeling (Partial Least Squares & Structural Equation Model). The results of this research show that it is possible to apply other methods for explaining stock returns. Additionally, explore the behavioral component of a different and scare analyzed like the Mexican Stock Market. It is shown that structural equation models can certainly help to improve behavioral approach because they can allow several dependent and independent variables, and they can also promote the use of constructs for their approximation and can handle different assumptions.

Keywords: Investor behavior, risk, market efficiency, market volatility, Partial Least Squares, new methods for modeling stock markets

J3 [142]

ASSESSMENT OF ELECTRONICS LABORATORY COMPETENCIES USING VIRTUAL OBSERVATION

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ABSTRACT

One of the graduate competencies in electronics engineering degree programmes under scrutiny in recent years, and much appreciated by the industry, is the proficient use of electronics laboratory equipment. Some academic institutions conduct their assessment using the observation of student performance while they develop laboratory experiments, whereas other institutions base their assessment on simulators and environments that allow capturing the interaction of students with traditional electronic circuits running on a computer. In contrast, this paper presents a novel approach on assessing electronics laboratory competencies using a remote laboratory, virtual observation and faulty prototyped electronic circuits. The selection of faulty electronic circuits as the instrument for the assessment resulted from coincidences of the graduate competencies declared by the university the authors work for and a survey among company leaders and professionals. Virtual observation consists in gathering information as to how a student uses some software to solve a challenge in order to produce an assessment. Virtual observation has been reported to be successful in substituting physical observation, thus reducing the tedious and error-prone revision of laboratory reports. The use of a remote laboratory allows students to interact with a traditional laboratory at home, while facilitating virtual observation to take place. The paper discusses the competency selected to be assessed and the levels of competency a student can attain based on the performance results. The different candidate faulty circuits as well as the faults to be found by the students are reviewed. Finally, the characteristics, configuration and expected outcomes of the assessment are outlined, as the competency assessment is scheduled to take place during the spring term.

Keywords: Assessment, graduate competencies, laboratory, virtual observation

J4   **[143]**

SENTIMENT ANALYSIS OF PROFESSOR'S FEEDBACK: TRANSITIONING FROM IN PRESENCE COURSE TO ONLINE COURSE

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ABSTRACT

The COVID 19 pandemic modify the educational process overnight, creating an environment of active change from in presence course to online course to professors. Due to the lockdown policies, people's emotions have been affected. For this work the aim was to explore if the sentiment of professor's feedback in higher education changed from in presence courses to online courses due to the COVID 19 lockdown policies. The current study analyzed the sentiment analysis of 406 phrases of professor's feedback from 22 students during four semesters (August-December 2018, January-May 2019, August-December 2019 and January-May 2020). The Plutchik´s Wheel of emotions was used for the classification of the sentiment analysis of professor's feedback (anger, fear, sadness, disgust, surprise, anticipation, trust, and joy). The results showed that the most repetitive emotions reported by professors' feedback to students were trust, joy, and anticipation, through in presence course and online course. During the online course, the joy sentiment reported a higher significance in professors' feedback than in presence courses. This study suggests that transitioning from in presence courses to online courses may have change professors' feedback to a more positive environment to motive and encourage the students to continuing to fulfill they full academic development.

Keywords: Sentiment analysis; professors' feedback; Higher education; Educational Innovation

J5   **[144]**

ASSESSMENT OF EDUCATIONAL MANAGEMENT STRATEGIES IN OPHTHALMOLOGY SPECIALTY PROGRAMS

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ABSTRACT

Medical specialty programs are aimed to train doctors in a specialization, closely intertwined with a professional context. Progressively physicians experience more complexity and responsibility under the supervision of tutors and institutions approved for such purposes. For this program to be feasible to implement, institutions rely on their educational management strategies to plan, organize, lead, and control their process. This study aimed to assess these educational management strategies in specialty programs. The approach in this study was quantitative, with a descriptive and cross-sectional design. The sampling strategy was a convenience sample that consisted of the assessment of 22 programs of Ophthalmology. The assessment was made with an instrument of 13 items with a Likert scale of 5 levels ranging from 1 which stands for strongly disagree, to 5 which represents strongly agree. Results show a mean of 3.73 on the total scale, with a standard deviation of 1.44. The educational management strategy with the most favorable response was planning (mean = 4.03), and the least favorable response was found in lead (mean = 3.43). These results indicate that educational institutions in health and medicine, particularly in Ophthalmology programs, have neglected the development of some management strategies, which must need to develop systematically. The universities must consider the establishment and adherence to good practices and policies, as these are part of the establishment of a quality educational program. A systematic analysis is needed to document and reflect the development, management, and institutional assessment of these strategies.

Keywords: higher education, medical education, health education, educational management, educational innovation, ophthalmology

J6   **[145]**

USING A MULTIDIMENSIONAL APPROACH TO IMPROVE ASSESSMENT OF GROUP WORK

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ABSTRACT

Institutes are placing increased focus on incorporating group work in teaching and learning in higher education. Though associated with many benefits, group work has its own sets of challenges; one of the primary ones being assessment. Very often it is observed that the final work submitted/presented by the group gets all the attention and same grades are awarded to every member of the group. To complicate matters, the assessment is designed and conducted by the teacher with no/minimal involvement of the students. Such a single dimensional grading approach raises concerns regarding its accuracy, not endowing students with motivation and meting 'unfair' treatment to students who have contributed significantly more than others. To overcome these challenges, this project explores the usefulness of a multidimensional assessment strategy that considers group work to comprise of three assessable components: product (final work), process (the way the team functions to carry out the task) and individual learning. This assessment framework was used to grade group presentations for the course Food Technology and Engineering. Recognizing that it is vital to give students a voice in grading, collaborative assessment (i.e. instructors and students jointly serve as assessors), and intra-group peer evaluation were used for assessing the product and process components of the group work, respectively. Individual learning was assessed through the use of oral test. Student feedback, collected on culmination of the group work, suggested that involving students in grading provided them with intrinsic motivation and elevated their role from passive observer to a contributor and decision maker. Students felt that using the multidimensional grading approach resulted in assessment being more reliable and equitable.

Keywords: Group Work, Assessment, Student Engagement

J7 [146]

CUP-CONM NURSE-FACULTY EMPOWERMENT THROUGH MENTAL HEALTH WELLNESS PROGRAM: A PROCESS EVALUATION

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ABSTRACT

A research-based Mental Health Wellness Programs (MHWPs) were implemented to the nurse-faculty since 2014 to present namely: Physical Fitness Program (PFP); Team Building and Values Formation Program (TBVFP); Think Academically, Act Proficiently Program (TAAPP); and Rest and Recreation Program (R&RP). The PRECEDE-PROCEED Model by Green and Kreuter (1999), used as framework, the Predisposing Factors, Reinforcing Factors, and Enabling Factors in the PRECEDE part served as parameters in determining the extent of implementation of MHWPs. The researcher established base information through process evaluation on the how and why these programs were offered. Its significant differences on the extent of implementation were also tested. Purposive sampling was utilized and there were eleven (11) participants. Triangulation was considered to examine the complex concepts on the how and why the MHWPs were implemented. The researcher was part of the instrument in gathering, validating and collating the data through their subscripts as they answered the given open-ended questions. Grounded Theory, central tendencies, ranking and Analysis of Variance (ANOVA) were utilized in data analysis. Results ranged from Implemented to Moderately Implemented with weighted average of 3.984 (PFP); 4.173 (TBVFP); 4.53 (TAAPP); and 4.596 (R&RP). Most programs were Moderately Implemented. The computed p value 0.077 at a significant level $\alpha = 0.05$, therefore, there were significant difference findings. Qualitative data revealed that the programs were offered to "maintain mental health" (PFP); "be self-actualized" (TBVFP); "manifest expertise" (TAAPP) and 'relieve from stress" (R&RP) overlays empowerment. Results varied from Implemented, Moderately Implemented to inconsistently implementation. Recommendation: to appraise other course content of the programs. Further, R&R and TAAPP shall be enhanced in order to reach the high extent of its implementation.

Keywords: Mental Health Wellness Program, empowerment, process evaluation

J8   **[147]**

EVALUATION OF LEADERSHIP BUREAUCRATIC REFORM PROGRAM IN NATIONAL INSTITUTE OF PUBLIC ADMINISTRATION

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ABSTRACT

In order to realize World Class Bureaucracy with excellent in public services, and governance effective and efficient. Reform Leader Academy (RLA) Education and Training is one of the national strategic programs in Indonesia that aimed at competency building as the leader of bureaucratic reform that supports the acceleration of the implementation of bureaucratic reform. The purpose of this study was to evaluate the programs and outcomes of the RLA Training program organized by the Technical and Socio-Cultural Competency Development Center (Pusbangkom TSK ASN) at National Institute of Public Administration Republic of Indonesia so that they have recommendations for future training development model. This study uses the CIPP Evaluation Model by incorporating the Kirkpatrick's evaluation model elements. Based on the results of research using qualitative and descriptive quantitative methods involving Key-Persons at Pusbangkom TSK ASN, teaching staff, and participants of RLA batch XVIII and XIX as research subjects. The result of the context evaluation, is that the planning of the RLA training program has a strong legal basis and has an important urgency. From the input evaluation, RLA has been carried out well, starting from the carrying capacity of the curriculum, selection, schedule, teaching staff, budget and facilities. From the results of the evaluation process, the RLA has met the criteria of 'Very Good' and "Good" in almost all aspects of the assessment. Finally, from the product evaluation results, the RLA shows that the results achieved from the implementation of the RLA Training program have met the program objectives satisfactorily by achieving the criteria of 'Good'. These results indicate and conclude that the RLA training program has met the evaluation of the CIPP model.

Keywords: RLA, evaluation, CIPP model, Kirkpatrick model, bureaucracy reform

J9   **[148]**

THE AFFECT OF LEARNING LANGUGE TEHNIQUE AND GIFTEDNESS ON LEARNING OUTCOMES OF STUDENTS READING ENGLISH SMAN IN WEST JAKARTA WITH CONTROLLING INTELLIGENCE QUOTIENT

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ABSTRACT

This research aimed at investigating; 1.Are there significant affect variable Y between treatment A1, and A2? 2. Are there a significant interactional affect between treatment A & B to variabel Y ? 3. Are there a significant difference variabel Y , between Treatment A1B1, and A2B1 .4. Are there a significant difference Variabel Y), between use treatment A1B2, and A2B2 . It was treatment by lebel research with 2x2 factorial . The data were analyzed by using Two-Way ANOVA. The result showed that (a) there is a significant effect in students reading result between the students who were taught by using semiotic analysis technique and those taught by the framing analysis technique, it based F count for the learning technique $= 4.785$ and P-Value $= 0.001$ at a significant level $a = 0,05$ because P_Value $0.001 < 0,005$ (b) there is a significant interactional effect between learning languge tehnique and giftedness on the students' reading result, it based F count $= 4.693 > 0,05$. (c) there is a significant difference in students reading result between the students with high giftedness who were taught by using scripted semiotik analysis technique based it,s a count t $= 37.947$ and those who were taught by the framing analysis technique, and it,s a count t $= 33.204$ (d) there is a significant difference in students reading result between the students with low giftedness who were taught by using semiotik analysis technique based it,s account t $=26.045$, and those students who were taught by the framing analys technique. Based it,s account t $= 24, 096$.

Keywords: Teaching technique, giftedness, and reading result

J10 **[149]**

THE INFLUENCE OF INTERPERSONAL COMMUNICATION, UNIVERSAL-DIVERSE ORIENTATION (UDO), AND SELF-EFFICACY ON THE QUALITY OF ADMINISTRATIVE SERVICES AT STATE UNIVERSITY OF JAKARTA

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ABSTRACT

This study aims to determine the direct effect of interpersonal communication, universal-diverse orientation (UDO), and self-efficacy on the quality of administrative services, as well as to determine the indirect effect of interpersonal communication and universal-diverse orientation (UDO) through self-efficacy on the quality of administrative services at State University of Jakarta. The research used was a survey with a causal design. The number of sample respondents was determined as 178 employees, the sampling technique was carried out by simple random (sample random sampling) from 230 employees of the State University of Jakarta. The results of this study indicate that; (1) There is a positive direct effect of Interpersonal Communication on the Quality of Academic Services, (2) There is a positive direct influence Universal-Diverse Orientation (UDO) on the Quality of Academic Services, (3) There is a positive direct effect of Self Efficacy on Academic Service Quality, (4) There is a positive direct influence of Interpersonal Communication on Self Efficacy, (5) There is a positive direct influence of Universal-Diverse Orientation (UDO) on Self Efficacy. The novelty in this research is that research conducted at this time is research looking at several variations of variables such as the influence of interpersonal communication, universal-diverse orientation (UDO), and self-efficacy on the quality of administrative services and quality variables as independent variables.

Keywords: Interpersonal Communication, Universal-Diverse Orientation (UDO), Self Efficacy, Administrative Service Quality

J11 [150]

THE REMOTE SUZUKI'S LESSONS WITH CHILDREN ON AUTISM SPECTRUM

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ABSTRACT

The Suzuki Method defines musical abilities as not innate but one that can be developed. It is worth emphasizing that children with autism spectrum disorders could play an instrument from an early age by listening to music, imitating the game's teacher, parent, friend, repeating and perfecting songs. Key question: what is the relationship between using the Suzuki Method and developing communication skills, social competencies, and cognitive skills of students on the autism spectrum? The goal is to design a proprietary model with students in the autism spectrum based on the Suzuki Method for remote work. For the main problem, the independent variable uses the Suzuki Method with autism spectrum students aged 7 to 13. The dependent variable results from the observational technique of student's communication skills, social competencies, and cognitive skills. An individualization experiment has been undertaken in the case study procedure. These will be case reports during the action research. A child on the autism spectrum disorder has good visual memory, developed match skills, and has the perfect pitch. Presumably, the research goals and indicators are not overestimated during Suzuki's remote lessons, too. Research can significantly accelerate reconstructive inclusion in a child.

POSTER PRESENTATIONS

P1   **[150]**

INCORPORATING ONLINE PHOTO CONTEST TO STUDENT-GENERATED QUESTIONS FOR SCIENCES LEARNING

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ABSTRACT

Student-generated questions (SGQ) have been found to improve students' comprehension after students are required to identify the information they learned and generate questions about important points. For teachers, SGQ are useful for evaluating students' learning. To enhance student motivation and engagement to this approach, smartphone photography, a favorite pastime of Generation Y, was incorporated into SGQ through an online photo contest. In this study, undergraduate students who enrolled in the Pharmaceutical Analysis course were divided into groups of four and assigned to generate one multiple-choice question and take one photograph that related to lecture topics. Following the teacher's assessment of the assignment, the questions were posted online together with the photographs using Padlet board and links to Google Forms. All students were then allowed to answer the questions anywhere and anytime to review the lesson and invited to vote for their favorite photographs. Additionally, the outstanding photographs which met the criteria of relevant content and photographic art were selected by academic staff to receive awards. It was found that the activity resulted in a higher average exam score ($69.2 + 7.1\%$; n=167) than that of the previous year ($57.4 + 10.0\%$; n=161) in which this activity was not conducted. The questionnaires revealed that the students were satisfied with the activities since questioning was more effective in enhancing their understanding of the content than only reading and the photography activities created an attractive and fun learning environment. Furthermore, they accepted that the photo contest combined with SGQ promoted their creativity and collaboration skills.

Keywords: online photo contest, student-generated questions, sciences, learning

P2 [151]

CENTRIFUGAL PUMPS TEST BENCH FOR EDUCATIONAL PURPOSES

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ABSTRACT

Industry uses pumping systems as an integral part of their production process strategy. Understanding the proper operation of centrifugal pumps and their ability to function as part of an integrated processing environment is a solution key to obtaining effective production results. The pump which converts mechanical energy into hydraulic energy through centrifugal motion is known as a centrifugal pump. It is a rotor-dynamic pump that uses a rotating impeller to increase the pressure of a fluid. It is therefore proposed to design a test bench for the characterization of centrifugal pumps. The test bench allows for performing functional tests on a centrifugal pump. Some results and graphs are presented and discussed. The test bench also gives the instructors more opportunities to make meaningful teaching points for the subjects being introduced to the students. Students will develop an experimental method from the analysis of these standards. We also developed an assessment grid to validate the investigation quality. Students will be observed on site to validate performing experiments quality. According to the Canadian Engineering Accreditation Board (BCAPG), one of the twelve qualities that an engineering student must acquire is the ability to investigate. This means that it must be able to study complex problems using methods involving experiments, analysis and interpretation of data and synthesis of information in order to formulate valid conclusions.

Keywords: Test bench, pedagogical approach, experimental investigation, centrifugal pump, pump performance, assessment grid

P3   **[152]**

TRANSFORMATIONAL LEADERSHIP AND PSYCHOLOGICAL EMPOWERMENT IN THE WORK INNOVATION WITH THE WORK CULTURE AS MODERATING VARIABLE

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ABSTRACT

As we known the phenomenon of dynamic technology trend and the development of various life activities one of them, business sector. Business stakeholders expected to innovate in order to keep their competitiveness and existence, several factors expected to be able to speeding or slowing work innovation in a company. Therefore, the purpose of this study is to confirm the effect of transformational leadership, and psychological empowerment to work innovation, which based on previous studies found that it influencing work innovation with work culture as moderating variable. The subject of this study is telecommunication infrastructure contractor company in Indonesia with 296 company's employee as respondents. Data processed using Lisrel with Structural Equation Modelling method. The results showing all variables accepted, transformational leadership, and psychological empowerment are positive significantly influence work innovation with the mediation of working culture, transformational leadership, and psychological empowerment have a direct influence on innovation organization and transformational leadership, and psychological empowerment is positive significantly influence each other.

Keywords: Transformational Leadership, Psychological Empowerment, Work Innovation, Work Culture