EDINNOVATE 2024

IFERP
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EdInnovate 2024

Innovations in Education and e-Learning

27th-28th July, 2024 | Tokyo, Japan

"Driving Educational Excellence through Digital Transformation"

Organized by

Institute For Educational Research and Publication (IFERP)

EDINNOVATE 2024

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Theme:
“Driving Educational Excellence through Digital Transformation”

Conference Venue

Villa Fontaine Grand Haneda
Ota City, Tokyo, Japan

Preface

We are delighted to extend a warm welcome to all participants attending EdInnovate 2024: Innovations in Education and e-Learning organized by Institute For Educational Research and Publication (IFERP) on July 27th-28th, 2024 at Hotel Villa Fontaine Grand Haneda, Tokyo, Japan. This conference provides a vital platform for researchers, students, academicians, and industry professionals from all over the world to share their latest research results and development activities in the field of e-learning and education. It offers delegates an opportunity to exchange new ideas and experiences, establish business or research relationships, and explore global collaborations.

The proceedings for EDINNOVATE-2024 contain the most up-to-date, comprehensive, and globally relevant knowledge in the field of e-learning and education. All submitted papers were subject to rigorous peerreviewing by 2-4 expert referees, and the papers included in these proceedings have been selected for their quality and relevance to the conference. We are confident that these proceedings will not only provide readers with a broad overview of the latest research results in e-learning and education but also serve as a valuable summary and reference for further research in this field.

We are grateful for the support of many universities and research institutes, whose contributions were vital to the success of this conference. We extend our sincerest gratitude and highest respect to the many professors who played an important role in the review process, providing valuable feedback and suggestions to authors to improve their work. We also extend our appreciation to the external reviewers for providing additional support in the review process and to the authors for contributing their research results to the EDINNOVATE-2024.

Since April 2024, the Organizing Committees have received more than 200+ manuscript papers, covering all aspects of EDINNOVATE-2024. After review, approximately 50+ papers were selected for inclusion in the proceedings of EDINNOVATE-2024. We would like to thank all participants at the conference for their significant contribution to its success.

We express our gratitude to the keynote and individual speakers and all participating authors for their dedication and hard work. We also sincerely appreciate the efforts of the technical program committee and all reviewers, whose contributions made this conference possible. Finally, we extend our thanks to all the referees for their constructive comments on all papers, and we express our deepest gratitude to the organizing committee for their tireless work in making this conference a reality.

About
EdInnovate 2024

EdInnovate 2024: Innovations in Education and e-learning bring together a wide group of scholars, educators, and researchers. Organized by The Institute for Educational Research and Publication (IFERP), this exciting conference calls for everyone to share the latest findings, explore various educational techniques, and encourage digital transformation in education. Taking place on the 27th and 28th of July 2024 in Tokyo, Japan, EdInnovate 2024 is set to host lively debates, presentations & publication opportunities, and insightful events.

Scope of the Conference

In an environment that is constantly evolving, it is more important than ever to acknowledge and implement new technologies in education. Our theme for EdInnovate 2024 is "Driving Educational Excellence through Digital Transformation," and we will be examining the critical role that digital transformation plays in driving excellence in education and its application in addressing complex issues.

About IFERP

IFERP-The Institute for Educational Research and Publication is a well-known organization that focuses on education, science, and technology. IFERP envisions a global scientific community united by innovation in digital technology. The organization prioritizes advancing industrial trends, disseminating the most recent findings, and encouraging research endeavours that will shape the future of humanity.

With a team of experts, IFERP has established itself across Europe, the Middle East, Asia, and several other countries, including Iraq, Malaysia, Australia, and more. They have offered publication, networking, research support, and other work in various fields of science.

IFERP is an expert at putting together international conferences that bring together scientists, researchers, academics, students, and professionals from all over the world to collaborate. They also publish articles and publications that are indexed by Web of Science and SCOPUS. Important webinars are organized by IFERP and they also offer comprehensive research aid and guidance. Key elements of IFERP's objective include promoting Industry-Institute Interaction and taking part in Youth Empowerment projects. Through faculty growth, skill development, and ongoing research and publication projects, the organization is dedicated to helping professionals.

Mission & Vision

Mission: "Upskilling the knowledge hub through technological innovation and excellence for the benefit of humanity"

Vision: "A Digitally equipped robust, dynamic & swift professional community integrating academics & industry for upgraded technical knowledge implementation."

What We Do?

IFERP believes that there is always a better way to treat the professionals by providing them a world class stage by organizing conferences. We are committed to doing the following activities:-

- We encourage convenient access to academic resources and support for all the aspirants and research scholors in urban and rural areas.
- IFERP organizes public education programmes, Workshops, Conferences, Webinars, Seminars, Guest Lectures, Short Term Training Programme, Faculty Development programme in the field of Engineering, Science & Technology.
- IFERP is dedicated to inquisitiveness, innovations and recent trends and developments in the field of Engineering & Technology.
- IFERP believes in knowledge sharing by collaborating with other Universities, organizations/Associations, to bring a better tomorrow.

Director's Message

Mr. A. Siddth Kumar Chhajer

Managing Director & Founder,
IFERP, Technoarete Group,
India

On behalf of IFERP & the organizing Committee, I express my hearty gratitude to the Participants, Keynote Speakers, Delegates, Reviewers and Researchers. The goal of the EdInnovate 2024: Innovations in Education and e-Learning is to provide knowledge enrichment and innovative technical exchange between international researchers or scholars and practitioners from the academia and industries in the field of e-learning and education.

This conference creates solutions in different ways and to share innovative ideas in the field of e-learning and education. EDINNOVATE-2024 provides a world class stage to the Researchers, Professionals, Scientists, Academicians and Students to engage in very challenging conversations, assess the current body of research and determine knowledge and capability gaps.

EdInnovate 2024: Innovations in Education and e-Learning will explore the new horizons of innovations from distinguished Researchers, Scientists and Eminent Authors in academia and industry working for the advancements in e-learning and education from all over the world.

EDINNOVATE-2024 hopes to set the perfect platform for participants to establish careers as successful and globally renowned specialists in the field of e-learning and education.

A. Siddth Kr

CEO's Message

Mr. Rudra Bhanu Satpathy

CEO & Founder,
IFERP, Technoarete Group,
India

IFERP is hosting the EdInnovate 2024: Innovations in Education and e-Learning this year in month of July, 2024. The main objective of EDINNOVATE-2024 is to grant the amazing opportunity to learn about groundbreaking developments in modern industry, talk through difficult workplace scenarios with peers who experience the same pain points and experience enormous growth and development as a professional. There will be no shortage of continuous networking opportunities and informational sessions.

The sessions serve as an excellent opportunity to soak up information from widely respected experts. Connecting with fellow professionals and sharing the success stories of your firm is an excellent way to build relations and become known as a thought leader. I express my hearty gratitude to all my Colleagues, Staffs, Professors, Reviewers and Members of Organizing Committee for their hearty and dedicated support to make this conference successful. I am also thankful to all our delegates for their pain staking effort to make this conference successful.

About Keynote Speaker

Ms. Rani Wemel

Co-Founder & Chief Operating Officer,
LTT Global Communications Sdn Bhd,
Malaysia

Ms. Rani Wemel From law lecturer to Ed-Tech leader, my journey is one of innovation and transformation. In 2003, inspired by the prevalence of mobile phones, I pioneered teaching English via SMS on a basic Nokia device. This led to the launch of SMS-ME-ENGLISH, revolutionizing digital learning worldwide.Assisting students from China, our program not only enhanced English proficiency but also earned global recognition, including accolades from the United Nations and OECD. Recognized in the AWS Women Founders Program and awarded Malaysia's Woman Leaders Award, my commitment to Ed-Tech initiatives, aligned with UN Sustainable Development Goals, remains unwavering.Honored with the NFED Entrepreneurial Excellence Award, I serve as Director of E-learning at Kiwanis Malaysia Academy, nurturing young minds. With roles as an advisor, mentor, and speaker, I blend passion with compassion, believing in the power of education to transform lives.

About Keynote Speaker

Mr. Syahrul Nizam Junaini

Senior Lecturer
Universiti Malaysia Sarawak
Malaysia

Mr. Syahrul Nizam Junaini As a senior lecturer and expert in the digital multimedia computing technology, I have dedicated my career to helping my students learn and grow. With more than 20 years of experience as an educator and instructor, I have a deep understanding of multimedia computing technology and a passion for sharing my knowledge as a speaker and mentor. Whether through traditional lectures or innovative e-learning methods, I strive to engage and inspire my students to achieve their full potential.In addition to my work as consultant and trainer, I am also involved in research and academic publishing activities. I constantly seeking new ways to expand my expertise and make a positive impact on the world. My research interests focus on user experience (UX) and augmented reality application.When I'm not in the classroom, you can find me travelling and playing futsal or volunteering at community engagement projects.I am always open to new opportunities to collaborate and share my skills as a consultant and trainer.

About Keynote Speaker

Prof. Francesco Fioretto

Research & Education Director
Istituto Marangoni Group
Italy

Francesco Fioretto studied Communication Design at Politecnico di Milano. Since 2010 he has been working as a freelance art and creative director for fashion and luxury brands in Paris, redesigning their identity and extending their communication strategies to digital spaces.

Since 2016 he has worked as creative director of Faux Q Magazine, an independent print fashion and art magazine. He is specialised in narrative photography for still life and fashion editorial shooting as well as film and interactive motion pictures.

Francesco joined Istituto Marangoni Paris in 2014 as Graphic Design and Art Direction Tutor first, and Programme Leader of Fashion Styling & Creative Direction then. In 2020 he was appointed Director of Education of Istituto Marangoni Shanghai and relocated to China.

Since July 2023, he covers the role of Research & Education Director at Istituto Marangoni Headquarters in Milano.

About Keynote Speaker

Mr. Sujan Sanku

Japan CHapter President, Co-founder & COO
Aisan-African Chamber of Commerce and Industry,
99 InfoSystems Inc., Japan

Sujan Sanku launched his first business in 2006, just before turning 18, leveraging changes in the Japanese Company Act. Overcoming the challenges of a young entrepreneur in a foreign, non-English speaking country, he grew my venture successfully.

With expertise in accounting, communication, finance, IT, law, and management, He has spent over a decade bridging gaps for multinational organizations worldwide. His multicultural background—Indian heritage and US/UK education—provides a unique perspective, honed through navigating crises like the 2008 and 2014 financial downturns and the COVID-19 pandemic.

As a passionate advocate for education, he believes in the transformative power of life experiences for professional and social growth. Sujan Sanku excel in marketing across industries and countries, thriving in challenging situations where problem-solving is key.

About Session Speaker

Mr. Roy Franke

Head of EB Digital
EB Zürich, Kantonale Schule für Berufsbildung
Switzerland

Mr. Roy Franke Hey There Im a Product Manager with a passion for leading, developing and bringing products to life. I have 18 years of experience leading cross-functional teams and a deep understanding of user behaviour. My mission is to create value for customers and businesses by leveraging the power of Artificial Intelligence, Virtual Reality and Augmented Reality.I currently sit on the executive board for EB Zurich which is the largest vocational school in Switzerland. My position as an Executive member is split across three roles: Head of Digital, Head of Vocational Education and Product management.I am also the Co-Founder of Sugar Cup. Sugar Cup enables the circular economy with a digital platform in neighbourhood.

About Session Speaker

Dr. Janki Shah

Academic Director
Toronto School of Management
Faculty at University Canada West
Canada

Dr. Janki Shah as a visionary Education Leader, She orchestrate academic excellence with a collaborative touch, nurturing an exceptional student journey. With a stellar track record, She mastermind curriculum innovation and fiscal prudence, ensuring operational brilliance in every endeavor.Recipient of esteemed “Emerging Scholar Awards” and academic scholarships, her commitment to excellence is unwavering, propelling scholarly discourse forward. Dr. Janki Shah expertise spans diverse domains—from Accounting to Talent Management—fostering a holistic understanding of organizational dynamics. In the realm of department operations, strategic planning, and budgetary stewardship, her leadership prowess shines brightly, charting courses for success. She champion student advocacy and foster a culture of inclusivity, ensuring every voice is heard and valued.Guided by integrity and professionalism, She navigate sensitive matters with discretion, upholding the highest ethical standards. Through mentorship and team leadership, She empower others to realize their fullest potential, driving collective achievement.In the ever-evolving landscape of education, She stand as a beacon of innovation, embracing change and cultivating an environment ripe for growth. With a blend of wisdom, foresight, and passion, She continue to shape the future of learning, one transformative initiative at a time.

About Session Speaker

Dr. Mayy ElHayawi

E-Learning and Accessibility Director
TEFL Wonderland-Brilliant Minds
Canada

Dr.Mayy ElHayawi E-Learning expert who managed to develop the first and only gamified TESOL qualifications in the world. Professional development consultant with vast teaching, training, instructional design, evaluation and assessment experience acquired through teaching tens of undergraduate and graduate courses, managing educational programs, mentoring teachers, leading E-Learning teams, supervising researchers, and training senior executives at different universities, colleges and organizations in Canada, US, Europe and the Middle East. Expert administrator with vast multicultural experience in project management, HR management, quality control, budgeting, process improvement, business development, strategic planning, procurement and inventory within higher education and corporate settings. Entrepreneur who founded a training, translation and consultation company, negotiated contracts, hired staff, finalized collaboration protocols with international foundations and educational institutions, and managed huge training and consultation projects.

About Session Speaker

Assoc. Prof. Ana Luisa Mateus Oliveira Chanca Torres

Department of Educational Technologies
Polytechnic University of Santarem
Portugal

Dr.Mayy ElHayawi E-Learning expert who managed to develop the first and only gamified TESOL qualifications in the world. Professional development consultant with vast teaching, training, instructional design, evaluation and assessment experience acquired through teaching tens of undergraduate and graduate courses, managing educational programs, mentoring teachers, leading E-Learning teams, supervising researchers, and training senior executives at different universities, colleges and organizations in Canada, US, Europe and the Middle East. Expert administrator with vast multicultural experience in project management, HR management, quality control, budgeting, process improvement, business development, strategic planning, procurement and inventory within higher education and corporate settings. Entrepreneur who founded a training, translation and consultation company, negotiated contracts, hired staff, finalized collaboration protocols with international foundations and educational institutions, and managed huge training and consultation projects.

About Session Speaker

Dr. Zainab Rasheed

Chief Technology Officer at Al Madad group
CEO of Zennova Technology
Dubai, UAE

Dr. Zainab Rasheed is a pioneering figure in the field of education, renowned for her transformative leadership spanning over two decades. As an esteemed academician, researcher, and entrepreneur, she has revolutionized educational services, leveraging innovative technologies to enhance student learning experiences. Dr. Rasheed's expertise lies in guiding institutions towards digital transformations, optimizing operations, and fostering academic excellence. Her entrepreneurial ventures underscore her commitment to shaping the future of education, while her research in pedagogy and educational technology has yielded evidence-based practices for student success. A sought-after speaker and recipient of numerous awards, Dr. Zainab Rasheed continues to inspire change and excellence in higher education through her visionary leadership and unwavering dedication.

About Session Speaker

Ms. Valary Oleinik

Speaker and Gamification Consultant
Valary with a WHY
United States of America

Valary Oleinik is half artist and half geek, and 100% committed to finding ways to help people develop and deliver more engaging and effective learning experiences. Her work as a speaker and consultant on gamification of learning and creative problem solving have earned her the titles of "maven of new thinking" and the "MacGyver of training." She is a recurring speaker at annual conferences such as TechLearn, Learning Solutions, DevLearn, AECT, GamiCon, and Serious Play.

Throughout her decades in the learning and development space she has been an in-person and online facilitator, instructional designer, presentation coach, and consultant on learning experiences in workplace and higher education settings. She is also a project manager at Weil, Gotshal & Manges LLP, a top-tier international law firm, where she has worked on both instructor-led and online learning development and delivery.

Valary has a BS in Management from the University of New Orleans and studied Instructional Systems Design at UMBC with a focus on Distance Education and using emerging technologies to create innovative learning solutions. Valary serves on the board of the USDLA (United States Distance Learning Association) where she formerly chaired the Analytics Committee and currently chairs the Advisory Board. Throughout her endeavors, she is assisted by her cat and bunny who are lousy typists but great at shredding papers.

About Session Speaker

Dr. Greg McVerry

Associate Professor of Curriculum Learning
Southern Connecticut State University
United States of America

Dr. J. Gregory McVerry, an Associate Professor at Southern Connecticut State University, is a leading figure in instructional design and cybersecurity education. With a PhD in Educational Psychology, his expertise lies in curriculum development and learning technologies. Dr. McVerry is instrumental in leading curriculum design for Licensed Publishing Partners of the CMMC-AB and co-founding the CT CMMC Coalition, aimed at fostering cybersecurity opportunities in New England. He has contributed significantly to leadership training for organizations like Mozilla and the Association of College Universities and Educators. His dedication to open-source learning is evident through his involvement with the Global Open Initiative Foundation and the Elm City Webmakers, advocating for digital literacy and web ownership. Additionally, Dr. McVerry's company, ReVIEW Talent Feedback System, focuses on enhancing instructional quality and securing federal contracts in the cybersecurity domain.

About Organizing Committee

Meet the architects of excellence! Our Organizing Committee Members are the masterminds behind the success of the conference. They carefully mould each aspect with unshakable attention to guarantee flawless execution. These imaginative minds breathe life into the event and make ideas a reality. We are incredibly grateful to these amazing people whose efforts have been the key to our success!

Organizing Seceratary

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The Effectiveness of Gamification Programs in High School Math Courses

Garza-Martinez, Jose
Mathematics Department, Tecnológico de Monterrey, Escuela Nacional de Preparatoria, Monterrey, Nuevo León

Abstract:

Math educators are presented with a challenge not only on the technological and design level of their courses but also in keeping students engaged throughout the classes. In this context, gamification has been shown to increase engagement and motivation, and its implementation could be crucial. Using gamification strategies as a program, this study aims to increase students' motivation, attitude, engagement, and knowledge in math courses for high school students. In four classes of fundamentals of math (112 students), a gamification strategy was employed during a year in two separate academic semesters. Seven gamification activities were implemented in the course from the 8th week until the 15th week of the semester, which the students designed collaboratively. The activities were of varied types, including Kahoot, Quizizz, Jeopardy, and Dynamics. Students responded to an adapted MAKE Framework questionnaire (a numerical Likert scale) to measure Motivation, Attitude, Knowledge, and Engagement to evaluate their opinions of the gamification strategy. According to the results of the questionnaire, the students' perception of skill improvement was present, with nearly all subcategories expressing favorability with scores over 78%. The data obtained displayed high reliability: motivation (α=0.81), engagement (α=0.92), attitude (α=0.91), and knowledge (α=0.88). This demonstrates that incorporating gamification into online high school biology courses is an effective strategy for increasing motivation and engagement, as well as reinforcing course knowledge and attitudes.

Keywords:

Educational Innovation, Gamification, Motivation, Math, High School

9 788197 050848

Integrating AI with AR and VR in the Metaverse: Shaping Future Learning for Environmental and Cultural Engagement

Antonio Juarez
Tecnologico de Monterrey, Mexico

Tomas Pachajoa
Universidad Católica de Colombia, Colombia

Abstract:

In this cutting-edge project, we delve into the realm of educational innovation in higher education, harnessing the power of augmented reality (AR), virtual reality (VR), and artificial intelligence (AI). Focused on the Metaverse, our initiative aims to bridge cultural and environmental consciousness between Mexico and Colombia. Through collaboration between Tecnologico de Monterrey and Universidad Catolica de Colombia, we're creating immersive sensory habitats. Enhanced with AR, VR, and AI, these digital environments are not only designed to illuminate cultural identities but also to actively engage students in confronting environmental challenges. This approach not only transforms educational content into interactive experiences but also significantly enhances student engagement, making learning more captivating and impactful. By integrating these advanced technologies, we strive to foster digital literacy, encourage innovative problem-solving, and enhance cross-cultural understanding in higher education settings. Our project exemplifies the integration of AR, VR, and AI as pivotal tools in aligning educational objectives with critical global issues, offering a unique method to engage and empower students in climate awareness, deeply ingrained in their cultural heritage.

Keywords:

Educational Innovation, Higher Education, Metaverse, Virtual Reality

9 788197 050848

Transforming Education: Experiential Learning and Innovation in Sciences for Health Awareness in Undergraduates

Anayansi Escalante-Aburto
Tecnologico de Monterrey, Institute for Obesity Research, Mexico

Maritza Peña-Becerril
Tecnologico de Monterrey, School of Engineering and Sciences, Campus Toluca, Mexico

Abstract:

At the undergraduate level, it is crucial to understand and quantitatively assess the risk of Cardiovascular Diseases individually, following the National Stroke Association (NSA) criteria, and to raise awareness among students for improving health habits in a real-world context. The results of the design of an interactive and innovative activity that demonstrates the importance of cardiovascular health care in the undergraduate student population are reported. Digital resources were utilized to facilitate remote learning. Implementing this activity in a real-world context is essential because the information gathered can be used to design personalized learning plans and content. The findings underscore the need to implement health education strategies to promote healthy lifestyles among students. These strategies could be managed by university wellness services, addressing modifiable risk factors and contributing to the prevention of cardiovascular diseases. Additionally, early detection of potential risk is emphasized, allowing specific interventions to improve lifestyle and well-being over time. Raising awareness about adopting healthy lifestyles in the university population is also essential, emphasizing attitudes and behaviors that promote cardiovascular health. This becomes particularly relevant when considering that health students serve as role models, exerting a positive influence as future professionals in the field.

Keywords:

Cardiovascular diseases, Experiential learning, Healthy habits, Undergraduate students, Higher education, Innovation in education

9 788197 050848

From Bites to Bytes: Fostering Sustainable Food Practices through E-Learning and Pedagogical Psychology

Svetlana Osinceva
RTU Liepaja Academy, Liepāja, Latvia

Abstract:

This paper explores the integration of online learning platforms as a means to address Sustainable Development Goal (SDG) 12.3 - the reduction of food waste by 50% by 2030, aligning with Goals 1, 2, 9, 10, 11, 13, 14, and 15. Focusing on transformative pedagogical practices and technological advancements, the study investigates the efficacy of e-learning in fostering sustainable behaviors, specifically in the context of food waste management. By analyzing the implementation of artificial intelligence algorithms within online learning environments, personalized guidance and feedback are provided to learners, facilitating informed decision-making in sustainable food practices, achieving SDGs 4 and 8. Additionally, the paper examines the implications of online learning on diverse age groups, ranging from primary school to young adults, highlighting the importance of tailored educational approaches in promoting sustainable habits. Through a comprehensive exploration of educational strategies and technological innovations, this study contributes to the discourse on leveraging digital platforms to advance sustainability agendas in education.

Keywords:

Behavioral Intention, e-education, Household Food Waste, Motivation

Delving into IoT Learning: An Earthquake Detection Experiment for Multidisciplinary Engineers in an Industry 4.0 Minor

Ricardo Jaramillo-Godinez
Tecnológico de Monterrey School of Engineering and Sciences Monterrey, N.L., Mexico

Kasiel Cruz-Conde
Tecnológico de Monterrey School of Engineering and Sciences Monterrey, N.L., Mexico

Diego Mondragón-Ugarte
Tecnológico de Monterrey School of Engineering and Sciences Monterrey, N.L., Mexico

Héctor R. Morano-Okuno
Tecnológico de Monterrey School of Engineering and Sciences Monterrey, N.L., Mexico

J. Enrique Chong-Quero
Tecnológico de Monterrey School of Engineering and Sciences Monterrey, N.L., Mexico

Donovan M. Esqueda-Merino
Tecnológico de Monterrey School of Engineering and Sciences Monterrey, N.L., Mexico

Abstract:

The aim of this paper is to present a successful training activity related to teaching the Internet of Things (IoT) to multidisciplinary senior-level undergraduate Engineering students enrolled in a minor called Systems and Technology 4.0 at Tecnológico de Monterrey. General topics of IoT were introduced, like smart devices, communication models, Reference Architecture Model for Industry 4.0 (RAMI), Communications protocols for Industrial Internet of Things (IIoT) and their standards and technologies. A hands-on approach was carried out, consisting of two parts: The first part was to acknowledge and use the ESP32 microcontroller via WiFi, while the second part involved a use-case of an earthquake detector with the help of two sets of the Arduino® IoT kit. Finally, there an entry and an exit survey were applied to measure the impact and the awareness of IoT systems with the help of the activities using a 5-point Likert scale. Results from this study show that this hands-on approach with a realistic user-case resulted in a better understanding and identification of opportunities using IoT regardless of their previous knowledge on the matter. We suggest that educators should implement more activities under the role of flipped classroom related to IIoT. Likewise, universities should be prepared to implement and encourage different IoT projects so that students find value in the use of these technologies.

Keywords:

Educative Innovation, Earthquake detection, Higher Education, Internet of Things, Industry 4.0.

Neurohumanities Lab: Physiological Signal Analysis within An Educational Partially Immersive Environment

Rebeca Mellado-Reyes
Mechatronics Department, School of Engineering and Sciences, Tecnologico de Monterrey, Monterrey, Mexico

Alejandro Villarreal-Villarreal
Mechatronics Department, School of Engineering and Sciences, Tecnologico de Monterrey, Monterrey, Mexico

Mei Li L. Cham-Perez
Mechatronics Department, School of Engineering and Sciences, Tecnologico de Monterrey, Monterrey, Mexico

Rebeca Romo-De León
Mechatronics Department, School of Engineering and Sciences, Tecnologico de Monterrey, Monterrey, Mexico

Verónica A. Elizondo-Villegas
Mechatronics Department, School of Engineering and Sciences, Tecnologico de Monterrey, Monterrey, Mexico

Alejandro Galindo
Department of Humanistic Studies, School of Humanities and Education, Tecnologico de Monterrey, Monterrey, Mexico

Alexandro Ortiz
Department of Humanistic Studies, School of Humanities and Education, Tecnologico de Monterrey, Monterreyy, Mexico

Juan C. Tudon-Martinez
Mechatronics Department, School of Engineering and Sciences, Tecnologico de Monterrey, Monterrey, Mexico

Carol S. Vélez Saboyá
Department of Humanistic Studies, School of Humanities and Education, Tecnologico de Monterrey, Monterrey, Mexico

Jorge De-J. Lozoya-Santos
Mechatronics Department, School of Engineering and Sciences, Tecnologico de Monterrey, Monterrey, Mexico

Manuel Cebral-Loureda
Department of Humanistic Studies, School of Humanities and Education, Tecnologico de Monterrey, Monterrey, Mexico

Mauricio A. Ramírez-Moreno*
Mechatronics Department, School of Engineering and Sciences, Tecnologico de Monterrey, Monterrey, Mexico

Abstract:

The use of immersive virtual reality technologies in education has demonstrated an improvement in the learning process of professional level students; nevertheless, mostly limited to the fields of science and engineering. In this study, the Neurohumanities Lab was introduced as a semi-immersive space where, differences in electroencephalography and heart rate as physiological signals, plus the statistical results from the ITC-SOPI presence questionnaire, were analyzed. These results were compared to those of a traditional class. Supervised Machine Learning algorithms were tested, and the engagement ratio plus the power extraction in the gamma band were the most significant features, with 92.34% accuracy on average. Heart rate variations were related to changes in the state of presence, also observed by the questionnaire responses' results. Concluding that the Neurohumanities Lab has the potential to be a completely immersive environment, enhance the learning experience in the humanities area, and evaluate learning in an objective way.

Keywords:

Emotions, Education, Humanities, Machine Learning, OpenBCI

9 788197 050848

Perception of the Use of AI Chat Playground in Higher Education and Its Impact on the Development of Transversal Competence in Digital Transformation

Rubén Belmonte-Izquierdo
School of Engineering and Sciences, Tecnologico de Monterrey, Morelia, Mexico

Rosalino Rodríguez-Calderón
School of Engineering and Sciences, Tecnologico de Monterrey, Morelia, Mexico

Abstract:

Since the release of ChatGPT, the excitement and skepticism about the use and academic integrity of artificial intelligence (AI) platforms applied for educational purposes have increased notoriously. Particularly, teachers are nowadays interested in integrating AI tools in the learning process and improving the students disciplinary and transversal competencies.

The objective of this paper is to measure the ease of use, experience and use for learning of MATLAB AI Chat Playground as a tool in learning activities for undergraduate engineering students. We present a qualitative study and descriptive statistics to analyze the data obtained from a survey applied to the students. The survey is divided into two sections: perception of using the tool and self-evaluation of the transversal competence in digital transformation developed through the course. Also, a comparison between students' self-perception and teachers' final evaluations of the digital transformation competence is presented.

The experiment implementation was performed during the early second academic term of first-year engineering students. An instrument was applied to 25 students. The results show acceptance of the tool. Moreover, students perceive AI Chat Playground as useful and powerful. However, there are some concerns and uncertainty about inappropriate use, dependance and abuse on using the tool.

Keywords:

AI Chat Playground, Artificial Intelligence, Transversal Competence, Educational Innovation, Higher Education

Learning Experience Design for Hybrid Education Models in International STEM Challenges and Competitions

David Garcia-Suarez
Tecnologico de Monterrey Mexico, Mexico

Javier Montiel
International Aerospace Academy, United States of America

Iyali Curiel-Enriquez
Tecnologico de Monterrey Mexico, Mexico

Dafne Ocampo-Bahena
Tecnologico de Monterrey Mexico, Mexico

Abstract:

In our globally connected world, designing STEM (Science, Technology, Engineering, and Mathematics) programs with an international focus, is paramount to preparing students for the complexities of the modern landscape, where collaborations across borders and cultural understandings are indispensable skills. Our research engaged 1200+ Latin American students in aerospace challenges integrating digital tools and soft skills. By crafting education challenges and competitions with UN Sustainable Development Goals, students engage in real- world issues, fostering a global mindset. This hybrid approach combined in-person and remote activities. Our post-analysis gains highlighted enhanced technical skills, creativity, and global collaboration. Feedback emphasized the need for more engaging elements. Our analysis included renowned engineering competitions, fostering soft skills development. This integration benefits students and contributes to future STEM leaders. The hybrid model facilitated cross-border collaboration among students from Mexico, Colombia, Argentina, Brazil, Canada, Chile, the United States, and Puerto Rico. Our paper represents the results of five years of hybrid STEM activity implementations, showcasing sustained benefits. Notably, collaboration extended to professors, fostering a network committed to advancing STEM education through digital transformation.

Keywords:

STEM, Digital Transformation, Soft Skills, Phenomena Based Learning, Professional Education, Educational Innovation

9 788197 050848

Curriculum Design for Developing 21st Century Skills: A Case Study of an Islamic High School

Dewi Sinta
Universitas Pendidikan Indonesia, Indonesia

Abstract:

Education in the 21st century requires a curriculum responsive to students' needs in developing skills relevant to the times. This study aims to explore the curriculum design for 21st-century skills development in an Islamic high school in West Bandung Regency, Indonesia. The selection of this school as the research subject is based on its curriculum development, which allegedly equips students with several skills, including 21st-century skills. This study employed a qualitative approach with a case study design. Data was collected through observation, interviews, document analysis, and triangulation. Data analysis techniques included reduction, display, verification, and conclusion. The results indicate that this school implements an integrated curriculum, including the Emancipated Curriculum, Cambridge Curriculum, and the Typical Boarding School Curriculum, which are integrated with the Child-Friendly School, Adiwiyata School, and Disaster-Safe Education Unit programs. This school has implemented an integrated curriculum design that includes a regular program for collaborative project-based learning. This curriculum design and collaborative project learning has effectively developed students' 21st-century skills, including critical thinking, collaboration, creativity, problem-solving, technological literacy, and leadership. The study contributes insights into best practices in curriculum design for developing 21st-century skills in senior high schools.

Keywords:

21st Century Skills, Curriculum Design, Senior High School

Case Study and Network Analysis: International Accreditation in Higher Education

Silmi Farhah Fauziah
Universitas Pendidikan Indonesia, Indonesia

Abstract:

Case study and network analysis: international accreditation in higher education. Enhancing the quality of higher education is a strategic choice, especially considering the escalating demands of competitiveness in various fields, both at the national and global levels. Higher education plays a pivotal role as a fundamental unit of education across all levels and pathways. Higher education institutions have transformed into multinational entities, with quality management both in domestic and international markets increasingly focusing on customer-centric approaches. This research presents a comprehensive bibliometric analysis to understand the trends in the development of national and international accreditation and explores research opportunities related to accreditation. Data visualization is conducted using VOSviewer. The study aims to elucidate the impact of international accreditation on TVET doctoral programs. The study's findings reveal trends related to international accreditation in higher education. Overall, referring to the Indonesia National Qualifications Framework (KKN), commonly known as the Indonesia National Qualifications Framework (KKNI), it is highlighted that TVET can serve as a bridge, facilitating formal and informal educational qualifications from intermediate to specialist levels (doctoral programs). This article concludes by presenting reflections on the findings as an area requiring further exploration. The research is anticipated to be valuable for empirical researchers interested in examining the evolution of research themes related to the impact of international accreditation on TVET doctoral programs.

Keywords:

Higher Education, Quality Enhancement, Bibliometric Analysis, International Accreditation, TVET Doctoral Programs, Indonesia National Qualifications Framework (KKNI)

9 788197 050848

An Empirical Study: Enhancing Language learning Through Generative Artificial Intelligence in Blended Learning: A Study on Productive and Receptive of Informal Digital Learning English

Tony Lee*
Department of Management and Marketing, Hong Kong Polytechnic University, Kowloon, Hong Kong SAR, China

Dr. Vincent Chob
Department of Management and Marketing, Hong Kong Polytechnic University, Kowloon, Hong Kong SAR, China

Abstract:

This study investigated the role of generative AI tools in facilitating informal digital English learning activities among second language (L2) learners in a Chinese context. It explored how factors like learners' ideal L2 self-imagination, international posture, and perceptions of information quality influence their engagement with productive (e.g. writing, speaking) and receptive (e.g. reading, listening) informal digital learning activities mediated by generative AI. Drawing from theories of consumption values and self-determination, the research model examined relationships between these variables. The findings suggest that while generative AI holds promise for informal digital language learning by facilitating imagination of an ideal multilingual self, there are opportunities to enhance functionality for L2 contexts. Nurturing an international mindset through interventions may also promote informal learning across genders. Adapting informal digital learning resources based on factors like information quality perceptions could increase engagement. This study provides insights into harnessing generative AI effectively for blended language learning solutions.

Keywords:

Generative AI, Informal Digital Language Learning, Ideal L2 Self, International Posture, Information Quality Perceptions

Specialized Program for Senior Citizens of Selected Cities of National Capital Region, towards a Revitalized Quality of Life and Improved Benefits and Privileges

Edelresa S. Juachon
University of the East, Caloocan, Philippines

Abstract:

The protection on the welfare of the senior citizens was first established in 1992. Republic Act No. 7432 of 1992 is an act to maximize the contribution of senior citizens to national building, grant benefits and special privileges, and for other purposes. The study aimed to assess the availment of Benefits and Privileges of Senior Citizens in terms of health; social; financial; education; and employment. Likewise, it also includes the problems encountered and the solution offered in the availment of benefits and privileges of the Senior Citizens. This study made used of three hundred sixty (360) respondents composing of two groups of respondents namely: senior citizen and barangay OSCA officials.

The assessments revealed the following: The common benefits and privileges enjoy by the senior citizens include: free medical checkup and medicines, and discounts in private services. Moreover, the most serious problems encountered by the senior citizens is the limited medical services due to lack of adequate facilities. However, the highly recommended solution is centered on employment benefits particularly in making ties with companies which may offer job to the senior citizens. Finally, the specialized program maybe proposed should focus on dental services, recreational facilities, more discounts to grocery items; special training course; and employment.

Keywords:

Senior Citizens, National Capital Region, OSCA officials

9 788197 050848

Transforming Hanjeli Village: The Role of Technology in Promoting Educational Tourism

Marsha Dizitha
University of Indonesia, Indonesia

Abstract:

This study explores the transformation of Hanjeli Village in Sukabumi, Indonesia, into a prominent educational tourism destination through the strategic integration of technology. The research aims to investigate how digital platforms and innovative technologies have enhanced the visibility and impact of Hanjeli's educational tourism offerings, focusing on the dissemination of knowledge about alternative food resources and sustainable agricultural practices. Employing qualitative research methods, including interviews and observations, the study examines the implications of incorporating technology into community-based tourism initiatives and its potential for promoting sustainable development and preserving cultural heritage. The findings highlight the significant role of technology as a media connector, enabling the spread of information about Hanjeli's educational tourism to a broader audience, including students and academics. This integration of technology not only fosters cultural exchange and socio-economic well-being for the local community but also contributes to global solutions for climate change. The study sheds light on how technology can amplify the reach and impact of educational tourism, empower local communities, and enrich the learning experiences of visitors. The results emphasize the importance of strategic technology integration in transforming rural communities into successful educational tourism destinations while promoting sustainable development and cultural heritage preservation.

Keywords:

Cultural Heritage Preservation, Digital Platforms, Educational Tourism, Hanjeli, Sustainable Development, Transformation

Implementation of Business Intelligence Technologies for Course Learning Outcomes Based on Multidimensional Model Approaches

Azwa Abdul Aziz
Universiti Sultan Zainal Abidin (UniSZA), Malaysia

Amirul Hakimi Azlan
Universiti Sultan Zainal Abidin (UniSZA), Malaysia

Abstract:

Business Intelligence (BI) technologies offer intuitive insights and advanced analytical capabilities by transforming raw data from integrated sources into actionable knowledge. In the context of higher education, where institutions face heightened competition, dwindling public funding, and increased accountability, BI serves as a pivotal tool for data-driven decision-making. This paper addresses the problem of optimizing Course Learning Outcomes (CLOs) by implementing BI technologies. Our objectives are to integrate CLO data into a multidimensional model, apply BI tools for CLO analysis, and evaluate how BI can enhance CLO performance in higher education institutions (HEIs). We propose the Intelligence Course Learning Outcomes Platform (ICLOP) as a solution, utilizing BI technologies to generate efficient student data and performance metrics. The case study involving students from Universiti Sultan Zainal Abidin (UniSZA), Malaysia, demonstrates that BI can significantly improve enrollment management, resource allocation, and student success. The findings conclude that BI tools provide an effective means to enhance CLOs, offering a robust framework for improving educational outcomes and institutional efficiency, highlighting the transformative potential of BI in the academic sector.

Keywords:

Business Intelligence (BI), Course Learning Outcomes (CLOs), Higher Education Institutions (HEIs), Intelligence Course Learning Outcomes Platform (ICLOP)

9 788197 050848

Enhancing Teacher Competence in ICT Integration Through the ICT-Based Learning; Case Study in Indonesia

Panca Lumbantobing
Universitas Pendidikan Indonesia, Indonesia

Ernawulan Syaodih
Indonesia University of Education, Indonesia

Abstract:

The purpose of this study is to examine teachers' competence in the use of ICT in learning after participating in the ICT-Based Learning Program training. This study is motivated by the issue that many teachers still face challenges in integrating ICT into the learning process in the current technological era. The research method used is a case study approach with research subjects consisting of 10 teachers who have participated in the learning technology competence training in Indonesia. Data were collected through interviews and analyzed using a thematic approach. The results of the study show that there is an increase in teacher competence after participating in this program, as evidenced by the improvement in teachers' teaching skills. This can be seen from how teachers prepare innovative and creative learning plans with the help of ICT. In teaching, teachers can increase students' interest in learning; this training has successfully helped teachers practice good methods and share knowledge with their peers and the teacher community by becoming a resource. Besides acting as a program that helps teachers continue learning and improve their competence, it also motivates teachers to stay updated with technological developments and use technology as a medium for competence development.

Keywords:

Teacher, ICT Learning, Competence

9 788197 050848

Exploring The Artistic Value of Crypto Art: A Hegelian Perspective

Skye Justine M. Miguel
Mapúa University, Manila, Philippines

John Xavier Chavez
Mapúa University, Manila, Philippines

Abstract:

This study examined the artistic merit of Crypto Art, a new art form powered by blockchain technology. Researchers explored how Crypto Art could contribute to the longstanding search for meaning in art. Even though it is uncertain whether it can wholly achieve this idea, its innovative potential, ability to involve audiences, and expression demonstrate significant contributions to discussing art's worthiness in the age of digitalization. The analysis applied multiple perspectives to understand meaning-making in Crypto Art. One approach examined symbol meanings and technology. Another explored how the power relations of society are challenged by crypto art. Finally, researchers looked into how Crypto Art might upend established art industry dynamics and give new voices a voice. This intricate method disclosed Crypto Art's chances of democratizing art creation and overhauling established power structures. Nonetheless, the present focus on ownership and market value may hinder the more profound artistic importance. More research is necessary to scrutinize some specific crypto art projects and determine how value is defined in this new medium. The environmental impact of the technology and the evolving legal landscape surrounding Crypto Art are also important areas for investigation. Future research that goes beyond one particular philosophical perspective will investigate how Crypto Art redefines beauty in the digital age and interacts with technology to reshape artistic expression. This ongoing exploration will ultimately contribute to a richer understanding of Crypto Art's potential for artistic innovation, social critique, and the quest for meaning in a technologically driven world.

Keywords:

Crypto Art, Digital Aesthetics, Artistic Value, NFTs (Nonfungible Tokens), Digital Age

9 788197 050848

Analysis of Machine Learning Algorithms for Personalized Movie Recommendations

Ankita Arora
Amity Institute of Information Technology, Amity University, India

Abstract:

Recommendation engines have completely changed how we find personalized material in the modern world. These days, finding movies you'll adore doesn't have to take a lot of time thanks to recommendation tools. To provide you with recommendations that are more accurate than those from content-based systems alone, we have developed a model that blends collaborative and content-based techniques. Because these systems only present options that are comparable to what you have already seen, they may be restrictive. Our approach considers what you like and what other people like you like to do, so it increases your alternatives. It encourages you to try new genres and makes locating excellent films simple.

Keywords:

Movie Recommender System, Regression, K-NN Algorithms, Content-based Filtering, Collaborative Filtering, Nearest Neighbors, K-means, Clustering

Beyond Grades: Revolutionizing Education with a Student Segmentation Framework

Shiva Chaudhary
Meerut Institute of Engineering and Technology, Meerut, India

Abstract:

The current paper discussed the effects of integrating Principal Component Analysis (PCA) with K-Means clustering in student segmentation within educational data mining. This study involved a dataset of 1000 computer science students, having attributes such as age, GPA, programming skills, learning style, and extra-curricular activities. In this study, the original high-dimensional data and the data reduced by PCA were applied to k-means clustering. Quality measures used in this experiment included silhouette score, Calinski-Harabasz index, and Davies-Bouldin index. Our results returned that PCA enhances clustering performance, where well-separated and cohesive clusters could be observed in 2D and 3D visualization. This paper highlights the importance of dimensionality reduction in getting more accurate and actionable student segmentation, hence giving definite insights to the educational institution in order to enhance personalized learning through resource optimization and meeting diverse student needs. Beyond this, it discovers concealed patterns and correlations that might be left out by the traditional approach. That thus turns out to be the way toward more equitable, individualized learning. Despite data quality, this study provides a foundation for further research on integrating intelligent and adaptive learning technologies in trying to continuously improve personalized learning and unleash each student's full potential.

Keywords:

Beyond Grades, Education, Principal Component Analysis (PCA)

9 788197 050848

In-Depth Analysis of the Influence of Artificial Intelligence Tools, on the Psychological Landscape of College Students' Perception and Academic Self-Concept

Afra Firdouse
CMR University, Bangalore, India

Swathi K.M
CMR University, Bangalore, India

Abstract:

This study delves into the perceived and experienced psychological effects of AI tools, such as ChatGPT, on college students' academic self- concept and perceptions. We aim to understand how these tools shape students' authenticity, learning processes, and overall outlook on academic tasks.

Through qualitative interviews with a semi-structured format, this study employed convenience sampling with purposive recruitment to select participants who extensively used AI tools in their academic pursuits. Participants involved college students aged between 18 and 25. 99 responses during the convenience sampling were filtered based on the participants' AI usage and experience. Semi-structured interviews were conducted for the selected participants. Data was saturated after six in-depth interviews. Thematic analysis, aided by Atlas.ti software, helped uncover recurring themes and patterns in the interview data.

The thematic analysis paints a nuanced picture of students' perceptions of AI in academia. While recognizing the benefits of AI in boosting productivity and knowledge accessibility, students also expressed concerns about its potential effects on authenticity, self-confidence, and critical thinking skills.

The analysis revealed ten main themes with 24 associated subthemes and 42 items were coded. The overarching themes include Perception of AI in Academics, Personality Traits of AI Users, Perceived Inferiority to AI, Reasons for Using AI, Academic Self-Concept, Challenges While Using AI, Attributions of Success Using AI Tools, Impact on Creativity, Feelings of Authenticity, and Academics Without AI. The study underscores the dual nature of AI's impact on academic self-perception, emphasizing the importance of a balanced approach to AI integration in education.

Keywords:

Artificial Intelligence Tools, Language models, ChatGPT, Academic Self-Concept, Authenticity, Extensive AI users, AI Perceptions

Implementation of Business Intelligence Technologies for Course Learning Outcomes Based on Multidimensional Model Approaches

Azwa Abdul Aziz
Faculty of Informatics and Computing, Universiti Sultan Zainal Abidin (UniSZA), Tembila Campus, Terengganu, Malaysia & Data Science & Analytics (DASA), Special Interest Group, Universiti Sultan Zainal Abidin (UniSZA), Terengganu, Malaysia

Amirul Hakimi Azlan
Faculty of Informatics and Computing, Universiti Sultan Zainal Abidin (UniSZA), Tembila Campus, Terengganu, Malaysia

Abstract:

One of the requirements to obtain approval for photovoltaic (PV) solar modules is to comply with their limitations. The information obtained from monitoring is much needed for the research and development work of universities and research centres. In this paper, a method for remote monitoring of data from photovoltaic solar modules has been developed. This information is extracted using appropriate sensors. A microcontroller and a wireless module are used to send data to the office computer. Data collection is performed using Laboratory Virtual Device Engineering Workbench (LabVIEW) software and is presented on a graphical user interface (GUI) screen. The planning process has the opportunity to remotely monitor data over time, which will provide more detailed information about the performance of photovoltaic solar modules. LabVIEW-based platforms are helpful for real-time monitoring of solar photovoltaic modules and for controlling speed of stepper motor Continuous monitoring and diagnostic information can be provided through these platforms. LabVIEW offers easy data acquisition, measurement, and monitoring options. These platforms can aid in identifying and rectifying defects in PV module performance. Through a solar panel, data can be easily measured, monitored, and acquired using LabVIEW .That effectiveness of LabVIEW-based platforms for improving monitoring and diagnostic capability of PV modules.

Keywords:

Data Acquisition, Remotely Monitoring, Sensors, Wireless, Microcontroller, LabVIEW

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- Track 3: Literary Criticism and Theory
- Multilingualism and Cultural Identity

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- Cross-Cultural Communication
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- Cultural Policy and Ethics

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CENTRE OF GRADUATE STUDIES,
SELANGOR ISLAMIC UNIVERSITY
Malaysia

Dr. Phil Harris
Professor Emeritus
University of Chester
United Kingdom

Dr. Ena Bhattacharyya
Senior Lecturer
Faculty of Education, Languages,
Psychology & Music (FoELPM)

Assoc. Prof. Dr. Roslina Ismail
Visual Arts Program
Faculty of Creative Arts
Universiti Malaya, Malaysia

Session Speakers

Dr. Teoh Kok Ban
Head of School
School of Industrial Management
ViTrox College
746, Persiaran Cassia Selatan 3,
14110 Batu Kawan, Pulau Pinang, Malaysia

Mr. Spencer Kraft
Founder
Speakeasy Holdings PTE. LTD
Indonesia

Ms. Leeza Gordon
Founder & CEO
Icymay Business Solutions
China

+91 80159 99748 | info@icahs.net | www.icahs.net

Harmful Objects Detection Using Machine Learning: A Comprehensive Review

Arisetty Yaswanth Prabhu
Department of CSE, Koneru Lakshmaiah Educational Foundation, Vijayawada, India

Srungarapu Pradeep Kumar
Department of CSE, Koneru Lakshmaiah Educational Foundation, Vijayawada, India

Movva Siva Karthik Chowdary
Department of CSE, Koneru Lakshmaiah Educational Foundation, Vijayawada, India

Naralasetty Harshavardhan
Department of CSE, Koneru Lakshmaiah Educational Foundation, Vijayawada, India

Abstract:

Harmful objects, a serious concern for public safety, necessitate effective detection methods, and machine learning offers promising solutions. This review delves into the application of machine learning, particularly deep learning, in detecting harmful objects using the UCF Crime Dataset. By analyzing various methodologies and data preprocessing techniques tailored to the dataset, such as augmentation and normalization, this study aims to improve detection accuracy. Looking ahead, we explore future avenues for enhancing detection capabilities while considering ethical and legal implications. Ultimately, this review serves as a guide for researchers and practitioners striving to bolster security measures through machine learning-based detection systems.

Keywords:

Harmful Objects Detection, Machine Learning, Deep Learning, Convolutional Neural Networks, Object Detection, Security

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Management Students' Adoption of Generative AI in Marketing Research: A PLS-SEM Study in the Context of an Emerging Economy

Mary Gretchen F. Chaves
University of the Philippines Cebu

Abstract:

This study explores the utilization of Generative AI (Gen AI) tools by management students at a state university in an emerging economy for their marketing research projects. Using the Technology Acceptance Model (TAM) as a framework, the research investigates students' perceptions of Gen AI's usefulness and ease of use, as well as their resulting attitudes, intentions, and overall satisfaction with these tools. A sequential mixed-methods approach is employed, combining a quantitative survey analyzed with SmartPLS SEM and a qualitative thematic analysis of student experiences on the use of Gen AI tools on their research projects. Hypothesis testing reveals that student attitudes and satisfaction are significantly influenced by the user-friendliness of the Gen AI tools and their effectiveness in facilitating research development. The qualitative data corroborate these findings, emphasizing students' high levels of satisfaction and strong interest in the continued use of Gen AI in their academic work. This research validates TAM's applicability in the context of Gen AI adoption in education and offers insights for designing teaching and learning strategies that incorporate user-friendly Gen AI tools. Such strategies have the potential to improve student learning and better prepare them for careers in the digital marketplace".

Keywords:

Generative AI, Marketing Research, PLS-SEM Study, Emerging Economy

Development of One Tap Portfolio: Portfolio Repository Management System

Edna F. Dayao
La Consolacion University, Philippines

Engr. Joseph D. Espino
La Consolacion University, Philippines

Abstract:

The rapid shift to online education has compelled adaptations in various aspects of academic life. This research explores the transformation of traditional portfolio requirements into a digital format through the development of the Portfolio Repository Management System (PRMS), referred to as "One Tap Portfolio". The PRMS serves as a web application designed to streamline the organization, submission, and management of digital portfolios for colleges and students at La Consolacion University Philippines.

This study investigates the salient features of the PRMS and assesses its efficacy in addressing common issues associated with traditional portfolios, such as disorganized files, loss of materials, physical waste, and material costs. The research employs a quantitative methodology, utilizing a Google Forms Survey to evaluate the PRMS based on the ISO 25010 standard criteria. The development of the PRMS follows the Scrum framework of the Agile Methodology, ensuring iterative progress, client collaboration, and adherence to requirements. The system includes features such as log-in and registration systems, a user dashboard, files menu, send files functionality, and administrative features.

Results from the survey indicate positive feedback, with the PRMS scoring well across various ISO 25010 categories, including Functional Suitability, Performance Efficiency, Compatibility, Usability, Reliability, Security, Maintainability, and Portability. The averages and descriptive equivalents suggest that the PRMS successfully meets the quality standards outlined by ISO 25010.

In conclusion, the One Tap Portfolio addresses the challenges posed by the digitalization of education, offering an efficient and user-friendly solution for portfolio management. The findings affirmed the system's effectiveness and provide valuable insights for further improvements in digital portfolio management systems.

Keywords:

One Tap Portfolio, Portfolio Repository Management System (PRMS)

9 788197 050848

Identifying the Factors that Influence Women's Education Through e-Learning in the UAE

Elyazia AlQubaisi
Amity University, Dubai, UAE

Ashok Chopra
Amity University, Dubai, UAE

Akram Haddad
Amity University, Dubai, UAE

Abstract:

In recent years, electronic learning (e-learning) has emerged as a transformational tool in educational settings. E-learning technologies make education available to everyone, regardless of geographical location or conventional barriers. The main purpose of this study is to discover factors influencing e Learning for women's education in the United Arab Emirates by implementing a quantitative method using a survey. This study has adopted a quantitative approach using a structured questionnaire. A random sampling method has been used to collect a sample of 300 females from various educational institutes and on-line learning platforms in the UAE. To analyse data, statistical tests such as descriptive statistics, correlation, and regression have been used. The findings of the study showed that access to dependable technologies and internet connectivity are the main factors that influence women's education through e-learning. Other factors were socio-cultural: family support, and societal attitudes toward women's education. High-quality institutional support, in the form of on-line resources and faculty commitment, is found to create superior learning experiences. It is complemented by personal motivation, driven by career aspirations and self-improvement goals, which have come out powerful. According to these findings, mitigating technological, cultural, and institutional barriers does become the common ground for paving the way toward improving women's education opportunities through e Learning in the UAE. This paper intends to give valuable insight to policy-makers and educators to come up with focused strategies for empowering women and their educational needs through the e-learning educational platform.

Keywords:

Women's Education, e-Learning, the UAE

9 788197 050848

Gamification Design in Cultural Heritage Education: A Systematic Literature Review

Li Rui*
School of Design, Faculty of Innovation & Technology, Taylor's University, Malaysia

Charles Sharma Naidu
School of Design, Faculty of Innovation & Technology, Taylor's University, Malaysia

Goh Wei Wei
School of Computer Science, Faculty of Innovation & Technology, Taylor's University, Malaysia

Ji Tiantong
School of Design, Faculty of Innovation & Technology, Taylor's University, Malaysia

Abstract:

The field of cultural heritage increasingly adopts gamification, integrating game-like elements into educational scenarios, as an effective pedagogical tool. A summary of empirical findings from state-of-the-art literature in the emerging field of gamification within cultural heritage education is presented in this study. Focusing on studies conducted between 2019 and 2024, specific search terms such as "Cultural Heritage," "Heritage Education," and "Gamification" are utilized to delineate the current gamification practices in this sector. This research reveals the latest scientific evidence on gamification design trends and extends the possibilities for future research directions in heritage education. Several key research questions are explored, including the principal contributors to this emerging field, the types of cultural heritage in which gamified education is employed, the outcomes and prevalent gaming elements of such initiatives, and the intended audiences of these educational endeavors. The results indicate that gamification generally fosters increased learner engagement and achievement, underscoring its potential to enhance social interactions. The efficacy of gaming mechanics like points and leaderboards in satisfying competence needs and fostering intrinsic motivation for learning is scrutinized. In conclusion, while gamification demonstrates the considerable potential to enrich heritage education, sustained and meticulous research is imperative for devising efficacious strategies and achieving a deeper comprehension of its broader impacts on learning and engagement. This paper advocates for establishing more robust theoretical frameworks and an expansive methodological approach in future research. Such efforts are crucial to advance the understanding and educational impact of gamification in cultural heritage contexts, moving beyond isolated case studies. Moreover, it is essential to diversify discussions within this field, considering various educational levels and forms of cultural heritage, to fully harness the transformative power of gamification as an educational tool.

Keywords:

Gamification, Gamified Education, Cultural Heritage, Heritage Education, Self-Determination Theory

9 788197 050848

The Effectiveness of Learning to Write Procedurale Texts with the Multiliteracy Model Assisted by Google Sites Media for High School Students

Maulida Azkiya Rahmawati
Semarang State University, Indonesia

Dhinar Aji Pratomo
Diponegoro University, Indonesia

Abstract:

Using the multiliteracy model in learning can improve students' literacy skills. These literacy skills are very necessary in learning. Learning with a multiliteracy model can make it easier for students to understand the material. This is because in multiliteracy learning, teachers can relate learning to students' experiences. Another factor that can support the quality of the learning process is learning media. The use of innovative learning media can increase students' interest and understanding of learning material. The innovative technology-based learning media that will be used as an effort to optimize learning in this research is Google Sites media. This research aims to analyze the effectiveness of learning to write procedural texts using the multiliteracy model assisted by Google Sites media in class XI high school students. This research attempts to analyze differences in students' initial abilities and the conditions after being given treatment. This research uses a quasi-experimental research design. Data were analyzed using the average similarity test (T-test). The results of the research show that there is a significant difference in the results of students writing procedural texts before and after being treated with the multiliteracy learning model assisted by Google Sites media.

Keywords:

Write Procedural Texts, Multiliteracy Model, Google Sites Media, High School Students

Acknowledgments
The author would like to acknowledge the Higher Education Financing Center (BPPT) and the Indonesia Endowment Fund for Education (LPDP) that have fully funding this article.

9 788197 050848

EFL Teachers' Perceptions towards the Use of Technology in Differentiated Instruction

Muttahidah
Universitas Negeri Malang, Indonesia

Nunung Suryati
Universitas Negeri Malang, Indonesia

Siti Muniroh
Universitas Negeri Malang, Indonesia

Abstract:

This study aimed to examine EFL (English for Foreign Language) teachers' perceptions towards the use of technology in their differentiated instruction practice, including how they incorporated technology in differentiated instruction, what the challenges they encountered, and what teachers' opinions were. Four experienced English teachers of secondary schools across Indonesia who were selected through purposive sampling participated in this study. The interview sections were employed to gather data on teachers' perceptions and practices of the incorporating differentiated instruction with technology in English language classroom. Then, the data were analyzed using thematic analysis. This study found out that all the teacher participants showed good perceptions and have incorporated technology in their differentiated instruction practice. They utilized various applications and software to support the learning process in tailoring students' needs. Meanwhile, the challenges were in the limitation of resources, time constraint, and students' skill. This study implied that school and parental support were really needed in the differentiated practice, particularly in incorporating it with technology.

Keywords:

EFL Teachers, Use of Technology, English for Foreign Language, Differentiated Instruction Practice

9 788197 050848

Kitab Rambang: Revitalization of Values and Communication Philosophy from Javanese Perspective

Dhinar Aji Pratomo
Diponegoro University, Indonesia

Maulida Azkiya Rahmawati
Semarang State University, Indonesia

Abstract:

This research is motivated by the dominance of communication studies from a Western perspective. Reference sources and communication theories are almost entirely from Western countries, such as the United States, Germany, England, and Australia. The consequence of this dominant Western perspective causes studies to become stagnant. Therefore, this research aims to identify non-western communication values and models in efforts to develop communication studies. This research was conducted by examining the Kitab Rambahng by Syech Maulana Ibrahim. Through exploratory studies based on the Kitab Rambang and in-depth interviews with informants, this research can reveal how communication was actualized in Ancient/Royal Javanese culture. This research succeeded in identifying communication values and philosophies from an Old Javanese perspective. The values resulting from research can be used as a medium for character education. The research results show that the Rambang Book contains communication principles that emphasize honesty, politeness, wisdom and harmony. These values are relevant to be applied in the context of modern communication, both in everyday life and in the professional world. This research contributes to cultural preservation efforts and provides a new perspective on the importance of traditional communication philosophy in building more meaningful and harmonious interpersonal relationships. It is hoped that the revitalization of the teachings from the Kitab Rambang can inspire people to adopt wiser and more ethical communication practices, as well as enrich the treasures of communication science with local perspectives that are rich in noble values. The results of this research can also be used as a medium for character education.

Keywords:

Kitab Rambang, Value, Education

Acknowledgments
The author would like to acknowledge the Higher Education Financing Center (BPPT) and the Indonesia Endowment Fund for Education (LPDP) that have fully funding this article.

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A Comparative Study of CNN Performance on FER2013 and CK+ for Facial Expression Recognition

Sameer Patil
KIT's College of Engineering (Autonomous), Kolhapur, India

Dr. Suresh Shirgave
D.K.T.E Society's Textile and Engineering Institute, Ichalkaranji, India

Abstract:

The FER2013 and CK+ datasets are commonly used in facial expression recognition (FER) tasks. The FER2013 dataset consists of 35,887 grayscale, 48×48 pixel face images with seven emotion labels: anger, disgust, fear, happy, sad, surprise, and neutral. The CK+ (Extended Cohn-Kanade) dataset contains 593 sequences from 123 subjects with seven emotion labels but is typically used for action unit detection and temporal segmentation, providing both onset and peak frames for each expression. The study focuses on the training and testing a CNN model on each of the datasets and comparing the performance using the accuracy, precision, recall and f1-score. The ROC curve and confusion matrix plotting shall help in understanding of the effect of dataset on the performance of model. The comparative results will give incites on the datasets role and importance in the FER field.

Keywords:

CNN Performance, FER2013, CK+, Facial Expression Recognition

9 788197 050848

Use of 3D Printing Technology to Develop the Ridger for Agricultural Application

Dr. Prashant Prakash Powar
Associate Professor, Kolhapur Institute of Technologies College of Engineering, India

Abstract:

This paper focuses on the development and Finite Element Analysis (FEA) of a 3D-printed ridger intended for agricultural applications. Initially, a conventional ridger was obtained from industry and 3D scanned to create a digital model. This model was then 3D printed using PLA after a series of trials to optimize print quality and mechanical performance. To ensure the practical field applicability of the PLA ridger, it underwent force calculations based on usage data. The stress and strain responses of the original mild steel ridger and the 3D-printed PLA ridger were compared through FEA, performed using ANSYS Student Version 2023.

To enhance the strength of the 3D-printed ridger, redesign efforts were conducted using CATIA. Various faceplate designs with support thicknesses of 4mm, 6mm, and 8mm were created and subjected to further FEA. The analysis provided stress (1st principal stress) and strain (total strain) data for each design iteration. Comparative results of the original and redesigned ridgers were compiled to evaluate performance improvements. This study demonstrates the potential of 3D printing in producing functional agricultural tools, highlighting both the benefits and limitations of PLA in such applications, and provides insights into effective design modifications for strength enhancement.

Keywords:

Finite Element Analysis (FEA), 3D-Printed Ridger, Agricultural, 3D Scanned, 3D Printed, ANSYS, CATIA

Classification of Dry and Wet Wastage: A CART Based Approach

Kanchanakuntla Abhinaya
Department of Computer Science and Engineering, Koneru Lakshmaiah Education Foundation, Vaddeswaram, Guntur, India

Iyyappareddygari Sushma Reddy
Department of Computer Science and Engineering, Koneru Lakshmaiah Education Foundation, Vaddeswaram, Guntur, India

Gontu Naga Suma Sri
Department of Computer Science and Engineering, Koneru Lakshmaiah Education Foundation, Vaddeswaram, Guntur, India

Yammunuru Harini
Department of Computer Science and Engineering, Koneru Lakshmaiah Education Foundation, Vaddeswaram, Guntur, India

Veerraju Gampala
Department of Computer Science and Engineering, Koneru Lakshmaiah Education Foundation, Vaddeswaram, Guntur, India

Abstract:

Sustainably managing waste and addressing the escalating environmental issues require effective trash segregation. In this study, an automated system for differentiating between dry and wet waste is created and implemented using the Classification and Regression Trees (CART) algorithm, a machine learning and image processing technique. The method in question makes use of a dataset made up of pictures of both wet and dry trash. In order to increase the precision and consistency of the input data, the photos have undergone a thorough preprocessing procedure that includes scaling, grayscale conversion, and normalization. These preprocessing methods allow for more accurate feature extraction and classification by normalizing the images. Flattened image arrays are given into the CART model, which is trained to distinguish between dry and moist rubbish. Several measures, including accuracy, precision, recall, and F1-score, are obtained from a well-partitioned training and testing dataset and utilized to meticulously evaluate the model's performance. The results exhibit high accuracy rates in distinguishing between the two waste types, proving the efficacy of the model. The interpretability of the decision tree model is also examined in the study, providing information about the classifier's decision-making process. The visual representation of the decision tree clarifies the many features in the classification task and their relative importance and hierarchical structure. This work not only highlights the potential of machine learning algorithms to enhance waste management systems, but it also promotes the greater goal of environmental sustainability. It is anticipated that this automated categorization system will simplify waste segregation processes, reduce labor-intensive human labor, and promote efficient recycling techniques. Future research will examine how to integrate this system with real-time waste management frameworks and examine the use of more advanced machine learning models to further improve classification accuracy.

Keywords:

Waste classification, Dry and wet waste, Machine learning, CART algorithm, Image processing, Automated waste segregation, Decision tree, Grayscale image preprocessing, Feature extraction, Environmental sustainability, Waste management systems, Image recognition, Computer vision, Recycling efficiency, Classification accuracy

9 788197 050848

Blockchain and Machine Learning Synergy: An Approach to Decentralized and Secure Model Training

Naga Gopi Chappidi
Koneru Lakshmaiah Education Foundation, Vaddeswaram, Guntur, India

Nizampatnam Yashwanth
Koneru Lakshmaiah Education Foundation, Vaddeswaram, Guntur, India

Karri Snehalatha Reddy
Koneru Lakshmaiah Education Foundation, Vaddeswaram, Guntur, India

Gudapati Snohitha Sai Sri
Koneru Lakshmaiah Education Foundation, Vaddeswaram, Guntur, India

Dr. Dubba Naga Malleswari*
Koneru Lakshmaiah Education Foundation, Vaddeswaram, Guntur, India

Abstract:

Through the past few years machine learning and blockchain technologies have rapidly advanced and revolutionized numerous industries. Blockchain offers secure transaction tracking, whereas machine learning facilitates data-driven decision making. This study explores both technologies and their potential to transform finance, supply chain management, healthcare and identity management. The focus is on how this integration can improve cybersecurity, privacy, and implement decentralization nature through improved data management and analysis. This collaboration promises automation, transparency, and data-driven decision-making while strengthening security. However, challenges, such as security threats, integration planning, and data processing, must be addressed before widespread adoption. Overcoming these hurdles will unlock the true potential of this technological fusion, shaping the future of enhanced efficiency, security, and data-driven decision making across various sectors. Finally, we demonstrate a case study on this integration.

Keywords:

Machine Learning, Decentralization, Blockchain, Smart Contract, Immutable Ledger, Identity Management, Finance, Transparency, Secure Model Training, Digital Voting System

Laying the Groundwork: Establishing Machine Learning Foundations in LGU Educational Policymaking

Rowell John B. Artiaga
Partido State University, Goa, Philippines

Nancy M. Flores
University of the Cordilleras, Baguio, Philippines

Abstract:

This study investigates the integration of Machine Learning (ML) into a Local Government Unit (LGU) educational policymaking to enhance educational outcomes, streamline administrative processes, and enable data-driven decision-making. It identifies challenges including data availability, data quality, model interpretability, scalability, and ethical concerns such as data privacy and bias mitigation. A literature review identifies ML algorithms applicable to education policymaking, including decision trees, neural networks, clustering, and reinforcement learning. The proposed framework emphasizes the need for high-quality datasets, robust data management systems, computational resources, and trained expertise. Stakeholder engagement, involving educators, policymakers, and community representatives, ensures alignment of ML solutions with educational goals. Upgrading data infrastructure storage solutions and comprehensive data governance frameworks is essential for efficient ML deployment. Additionally, establishing ethical guidelines for responsible data handling and bias mitigation, as well as regular performance evaluations, will ensure the fair and effective use of ML. By leveraging ML, LGUs can enhance educational outcomes, streamline administrative processes, and create data-driven, equitable educational policies. Further research is encouraged to expand data collection, apply the proposed ML system, conduct longitudinal studies, and continuously refine the framework, empowering LGUs to harness the transformative potential of ML in education policymaking.

Keywords:

Machine Learning, LGU, Local Government Unit (LGU), Educational Policymaking

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Social Learning: Baduy Tribe's Strategy in Maintaining Their Identity Amidst Tourism

Cika Aprilia
University of Indonesia, Indonesia

Abstract:

The life of the Inner Baduy tribe, particularly in Cibeo village, is still coloured by strong customary laws and culture, making it an attraction for tourists. Despite this, the Baduy tribe refused to be a tourist destination in 2020, fearing damage to their culture. They prefer the term 'saba budaya' or gathering rather than tourism as it relates to their 'pikukuh' or customary law. Despite not receiving formal education, the Baduy tribe has a social learning system that is in accordance with their background. This social learning is their identity strategy, even though they do not have formal schooling.This research uses the theories of Li Yang, Theron Nunez, Barth, and Hewlett to analyse the impact, background, positioning, boundary strategy, and social learning of the Inner Baduy tribe towards tourism. The ethnographic method is used to collect data through interviews, observations, literature studies, and documentation. The analysis shows that the Inner Baduy tribe does not reject tourism as long as it does not interfere with their daily activities. Cibeo Village is open to tourism due to the practice of their ancestors. Their position as hosts is supported by WISUBA with mutually beneficial cooperation. However, the impacts of this interaction include cultural commodification and ecological damage, such as plastic waste. Ethnic boundary strategies are used to defend their existence from the impacts of tourism. Social learning plays an important role in maintaining their identity as indigenous people without formal education.

Keywords:

Cultural Tourism, Ethnicity, Baduy Tribe, Social Learning

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Conflict of Interest: *The authors declare that they have no affiliations with or involvement in any organization or entity with any financial interest in the subject matter or materials discussed in this manuscript.*

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User Specifications for Neurodiverse Students with Autism Spectrum Disorder (ASD): A Preliminary Study

Normala Rahim
Universiti Sultan Zainal Abidin, Malaysia

Abstract:

The United Nations Sustainable Development Goals (UNSDG) prioritize 'Quality Education' for global peace and prosperity. The Malaysian government's special education reforms are influenced by the 'Shared Prosperity Vision 2030'. Special needs education emphasizes the necessity of incorporating technology into the learning environment to meet neurodiverse learners' communication, teaching, and learning needs. Teachers serve as a liaison between students, parents, and carers. Technological innovations assist instructors in meeting the educational demands of neurodiverse students at all levels. Early intervention-based teaching and learning is widely seen as beneficial to neurodiverse students, particularly those with autism spectrum disorder (ASD). However, students with ASD's genuine needs, acceptance, and preferences are still not given enough attention by technology, particularly from the paradigm of natural user interface (NUI) technology. Therefore, to bridge the identified gap in academic literature, this study investigates the efficacy of user specification in enhancing multimodal interaction for students with ASD. Recognizing the unique communication challenges faced by ASD students, the study addresses the central problem of optimizing interaction interfaces to cater to their specific needs. Through a preliminary study, the aim is to assess the impact of tailored user specifications on improving the user experience of multimodal interaction tools for ASD students. Employing a mixed-methods approach, this study combines qualitative and quantitative measurements and involves Wizard of Oz (Woz), observation, and interview. Results demonstrate promising enhancements in engagement, emotional impact, and communication among ASD students when utilizing tailored multimodal interfaces. In addition, the study also highlights the need for further exploration and refinement in user specification strategies to accommodate the diverse sensory and cognitive profiles within the ASD population. Future research endeavors will focus on the user experience of customized interaction interfaces and explore advanced methodologies for personalized user specification in multimodal interaction systems for ASD students.

Keywords:

Human Computer Interaction, Natural User Interface, Multimodal, Autism Spectrum Disorder, User Experience

9 788197 050848

Skin Cancer detection using ML and DL Techniques: A Comprehensive Analysis

Puvvada Venkata Lakshmi Vyshnavi
Department of CSE, Koneru Lakshmaiah,Education Foundation, Vaddeswaram, AP, India

Gopisetty Ruchitha
Department of CSE, Koneru Lakshmaiah,Education Foundation, Vaddeswaram, AP, India

Vasa Satya Praveen
Department of CSE, Koneru Lakshmaiah,Education Foundation, Vaddeswaram, AP, India

Pulla Reddy Gari Reddy Rekha
Department of CSE, Koneru Lakshmaiah,Education Foundation, Vaddeswaram, AP, India

Dr. Naveen Mukkapati
Department of CSE, Koneru Lakshmaiah,Education Foundation, Vaddeswaram, AP, India

Abstract:

Skin Cancer is defined as an abnormal growth of cells so tumors are formed due to certain factors like exposing to UV radiation from the sun detection, also includes many factors like Having fair skin, having sunburns, or having skin cancer increases the risk. Depends on abnormal growth of skin cells at various parts various types noticed like Basal Cell Carcinoma (BCC), Squamous Cell Carcinoma (SCC), and Melanoma. Initially ML algorithms like SVM's or Random Forests were used, But DL models have shown better in identifying skin cancer lesions (An area where abnormal skin colour occurs than surrounding colour) as Benign(not harmful) or Malignant (harmful) because DL models have the capability to learn and extract important features from lesion images. It is crucial and important to identify them at an early stage as millions of people suffering with this disease and it also reduces the complexity of the individual by minimizing chances of getting hospitalized. Significance of this analysis is to make a survey analysis on identify skin cancer as early as possible by utilizing ML and DL techniques.

Keywords:

Skin Cancer Detection, Lesion, Deep Learning, Machine Learning, Neural Network

Sentiment Analysis of Educators and Learners on Google Classroom as an Online Learning Environment

Fernan H. Mendoza
College of Computer Science, Don Mariano Marcos Memorial State University, La Union, Philippines

Thelma D. Palaoag
College of Information Technology and Computer Science, University of Cordilleras, Baguio City, Philippines

Abstract:

Ideas surrounding online learning are rapidly evolving due to ongoing technological advancements that support innovative approaches. The widespread availability of information and communication technology (ICT), an expanded toolkit, and its integration into daily life, particularly within the academic domain, have become increasingly inevitable, particularly in light of the COVID-19 pandemic. This research engages in a discussion about the use of Google Classroom as an educational tool. By conducting sentiment analysis on the online learning experiences of educators and students, academic institutions can gain valuable insights into their students' needs, assess the effectiveness of current instructional methods, and foster meaningful learning experiences. Data were collected from 31 faculty members and 533 students at the Don Mariano Marcos Memorial State University-South La Union Campus. All participants were invited to partake in an online survey to share their experiences and potential challenges encountered during synchronous online instruction using Google Classroom. This study employs a mixed-method approach, combining quantitative and qualitative methodologies with the application of machine learning. The findings suggest that both students and faculty members found the Google Classroom platform to be a valuable tool, motivating further exploration of optimal learning environments for blended learning.

Keywords:

Blended Learning, Google Classroom, Online Learning, Sentiment Analysis

9 788197 050848

Using Artificial Intelligence Tools to Facilitate Pragmatic Instruction: An Example of Making a Request

Hui-Chen Hsu
University of Taipei, Taiwan

Abstract:

Making requests has been a core challenge for many EFL learners since it relates to the interlocuter's face if these English requests are not appropriate or polite. Conversation textbooks have been the major resource for many EFL learners to approach correct or appropriate English expressions; however, the examples are usually few, and most conversations are centered around the talks between classmates or friends. This study explores the use of artificial intelligence tools in supporting pragmatic instruction of making requests in English. By using appropriate prompts, Artificial intelligence tools such as ChatGPT or Gemini can offer more English requests based on the interlocuters' roles in the context. In addition, different levels of politeness, as discussed in English conversation textbooks, can be demonstrated as well. Despite the facilitating role of Artificial intelligence tools, it is suggested the role of the English instructor is still important so that the appropriate responses can be assured and avoid machine errors.

Keywords:

Artificial Intelligence, Facilitate Pragmatic Instruction, EFL Learners, ChatGPT, Gemini

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