



The IEEE ProComm Japan 2024 Workshop

<https://www.ieee-jp.org/section/tokyo/chapter/PC-26/>

Date: December 16, 2024 (Monday)

Time: 19:00~21:00 (Japan Standard Time)

Format: Online, free of charge

Register at: <https://forms.gle/rhb6aZVa9LAr4v3c6>

Please register at the above URL. The Zoom link for the workshop will be sent later to your registered e-mail address.

Workshop Schedule:

19:00-19:05 (JST) Opening Remarks

Pauline Kawamoto (Shinshu University) Treasurer, IEEE PCS Japan Chapter

19:05-19:45 (JST): Keynote Talk

Masahiro Inoue, PhD, PEJp, PMP

(Specially Appointed Professor, Keio University,

Founder, JV-Campus/JMOOC Micro-credential WG, Japan)

International Recognition and Collaboration on Micro-credentials

(abstract)

To develop human resources who can respond to rapid changes in industrial structures and promote digital transformation (DX) and green transformation (GX), learning must continue beyond the knowledge acquired in the university. There is a need for reskilling to acquire knowledge and skills in different fields and upskilling to enhance competence in one's area of expertise. Micro-credentials have attracted attention in many countries as complementary education to master's and bachelor's degree programs, in which students acquire skills in a specific study area in a relatively short period with certified results. Flexible teaching methods, such as online or blended teaching, are employed. Micro-credentials comprise an educational system, which assures the quality of education, and information technology, which allows learners to securely store and share their learning history. To design Micro-credentials, share them locally and internationally, and implement their operation with digital data, the roles of educational systems and information technology, as well as their interdependencies, must be well defined. International recognition and collaboration on Micro-credentials are important to promote the use of human resources in the Asia-Pacific region.

SESSION A: Artificial Intelligence in Education

1. Integrating AI-Supported Gamified Learning for Vocabulary Enhancement in Malaysian Secondary Education
Hazwani Hassim, Hafizoah Kassim (Universiti Malaysia Pahang Al-Sultan Abdullah)

(abstract)

This study explores the integration of Duolingo, an advanced AI-supported, gamified language learning application, within the Form 1 English curriculum at SM Sains Kota Tinggi (SAKTI), Johor. Duolingo, renowned for its engaging user interface and adaptive learning paths, personalizes education through its sophisticated AI algorithms that analyze student responses to optimize vocabulary training. Responding to the Malaysian National Education Blueprint's emphasis on technological integration, this initiative aligns with the Common European Framework of Reference (CEFR) and supports the objectives outlined in the Malaysian Roadmap 2025. Fifty Form 1 students at SAKTI will participate in weekly Duolingo sessions designed to complement and enhance their textbook-based curriculum. These sessions are expected to improve vocabulary retention and usage significantly, leveraging the app's gamified approach to boost student engagement and motivation. Furthermore, Duolingo's comprehensive analytics provide educators with insights to fine-tune teaching strategies effectively. Anticipated outcomes of this study include not only enhanced vocabulary acquisition and increased digital literacy among students but also improved overall educational metrics. This approach aims to foster a dynamic, responsive learning environment, contributing to the digital literacy goals of the Malaysian Education Blueprint and preparing students for the demands of a globalized world.

2. AI vs. Educators: Who Designs Better Lesson Plans? Here's the Verdict from Malaysia's English Instructors
Nur Amalina Mohd Shariff (GAINS Education Group Sdn. Bhd), Wan Noor Farah Wan Shamsuddin (Universiti Malaysia Pahang Al-Sultan Abdullah)

(abstract)

The introduction of ChatGPT has ignited significant discussion among educators, with some seeing it as a technological advancement, while others are cautious about its role in language classrooms. This study aims to examine the perspectives of Malaysian English instructors on using ChatGPT for lesson planning. Lesson plans, typically created by teachers in accordance with the national curriculum, provide a general structure for organizing lessons. An online survey was conducted with English instructors to gather insights into their experiences and attitudes toward using ChatGPT in lesson planning. This was complemented by semi-structured interviews with selected instructors to gain further qualitative insights. Findings revealed that Malaysian English teachers generally have a positive view of using ChatGPT, especially for lesson planning. They highlighted benefits such as time efficiency, high success rates, and creativity in lessons. However, participants also noted challenges, including limitations in adaptability and a tendency towards a Western bias. The study suggests that AI could play a valuable role in reducing teachers' workload and offers contemporary insights for teacher training programs.

3. Artificial Intelligence Image Generator Assisted Descriptive Writing
Hamizah binti Zahari, Siti Ainun Jariyah binti Hassan, Umi Kalsom binti Masrom (Universiti Malaysia Pahang Al-Sultan Abdullah)

(abstract)

The use of technology in language instruction opens up new possibilities for improving learners' writing abilities. This study examines the impact of AI image generators on improving the descriptive writing abilities of 43 diploma students enrolled in an English course. In order to improve students' listening, speaking, reading, and writing abilities on well-known subjects, the course teaches them how to organise paragraphs and compose entire essays that have an introduction, a body, and a conclusion. Students completed writing assignments in two guided cycles that included thematically chosen tasks which is CEFR informed. They generate images based on their descriptions using Leonardo AI, resulting in a dual-channel learning experience that encourages creativity and a deeper comprehension of descriptive writing. Findings indicate that AI-generated imagery can enhance students' confidence, engagement, and self-assessment skills in academic writing, thus holding potential for broad educational applications. This novel strategy improves overall writing proficiency and has a substantial impact on students' ability to generate vivid descriptions. By showcasing how AI may be used to enhance language skill development and facilitate visual learning, the study promotes educational technology.

SESSION B: Communication Enhancement & Social Issues

1. Employers' expectations of Graduates' English Communication Abilities

Zuraina Ali, Sareen Kaur Bhar (Universiti Malaysia Pahang Al-Sultan Abdullah)

(abstract)

Proficiency in both written and spoken English is essential for graduates to gain international recognition. With an emphasis on engineering firms and a legal firm, this pilot study sought to investigate employers' perceptions of graduates' proficiency in English communication. Three employers were interviewed in semi-structured interviews to learn more about their expectations for English competence, their opinions on graduates' communication skills, and recommendations for enhancing university English language programs. The results showed that although most graduates understand English, many have trouble communicating effectively, especially when it comes to vocabulary. Employers emphasised the value of developing self-assurance in communicating ideas clearly and recommended using technology to help with writing. However, they also emphasised the significance of fluency in English for graduates, even while employing technological tools. These results imply that language instruction should be improved to better suit business demands.

2. Evaluating Communication Depth in Perspective-Taking: Student Responses to Article Analysis

Nur Adiba Abdul Razak (MARA Professional College, Indera Mahkota Kuantan)

(abstract)

This study examines diploma students' perspective-taking skills and communication depth through an analysis of their critical responses to a given article. Using a rubric-based assessment across 30 student assignments, the study evaluates five core criteria: identification of perspectives, depth of engagement, recognition of biases and objectivity, clarity and coherence, and relevance to audience and purpose. These criteria, scored on a 5-point Likert scale, aim to capture both the students' analytical depth and their ability to articulate nuanced viewpoints effectively. Findings reveal varying levels of skill in perspective recognition and communication clarity, with higher-performing students demonstrating significant awareness of biases and audience-focused articulation. The results also highlight common challenges in students' ability to recognize subtler perspectives and biases, suggesting a need for targeted teaching interventions. By assessing communication competence through perspective-taking, this research contributes to a deeper understanding of essential skills in critical literacy and general communication courses, emphasizing the importance of empathy,

objectivity, and clear expression. These insights have implications for curriculum development, particularly in fostering nuanced analytical and communication skills among students in higher education.

3. Investigation of the Cause of the Uncanny Valley in Human Faces

Ryosei Ooki, Mayu Shintani (Shibaura Institute of Technology)

(abstract)

Using virtual humans in advertising and media can effectively reduce costs related to labor and contracts. However, if the "uncanny valley" effect is not overcome, these virtual representations may evoke unsettling feelings among potential customers, impacting their emotional response and communication experience. This study examines the hypothesis that the uncanny valley arises from a lack of anatomical accuracy, discussing survey results on facial impressions and exploring future research directions. A pilot survey was conducted in July 2024 where participants were shown real human faces, 3D models based on real people, and AI-generated faces, and they were asked to rate their impressions using a 6-point Likert scale and free-response questions. This approach allowed for quantifying participants' psychological factors and captured unconscious feelings in their own words. The first part of the presentation reports on the results analyzed using one-way ANOVA, while the latter part focuses on the upcoming survey using semantic differential scales (SD). This study phase will employ factor analysis with Promax rotation to determine how well the indices align with conceptual constructs. Additionally, text mining techniques will be applied to identify which aspects of the images influence participants' judgments of pleasantness or discomfort toward them. This approach aims to shed light on the specific facial features that trigger the uncanny valley effect, with implications for effective communication using virtual representations.

4. Assessing the Use of PSA Videos: Challenges and Benefits for Technical University Students

Hamizah Zahari, Rosnani Ismail, Nurul Nadia Muhammad, Ezihaslinda Ngah (Universiti Malaysia Pahang Al-Sultan Abdullah)

(abstract)

This study investigates the perceptions of technical university students regarding the benefits, challenges, and skills acquired through the preparation of a public service awareness video assessment. The research aims to analyze the impact of this experiential learning activity on students' communication, teamwork, and technical proficiency. Using a mixed-methods approach, data were collected from student surveys and in-depth interviews, allowing for a comprehensive understanding of students' experiences. A total of 64 students from Universiti Malaysia Pahang Al-Sultan Abdullah were selected using purposive sampling technique for the study, and the quantitative analysis of the data revealed that 78% of participants reported significant improvement in their collaboration and communication abilities. Additionally, 65% expressed that the project facilitated the development of digital competencies, including video editing and social media engagement. However, 42% of the students encountered challenges related to technological literacy, while 38% cited difficulties in coordinating teamwork due to time constraints and task delegation. Further findings reveal that, while students perceived notable benefits, including enhanced public speaking and collaborative skills, they also encountered significant challenges, particularly in managing project timelines and adapting to unfamiliar digital tools. Despite these challenges, students reported acquiring additional competencies in digital literacy and problem-solving. This study supports the value of project-based assessments in improving workforce readiness in a digitally driven industry.

SESSION C: Language Learning for Communication

1. Students' motivation and Performance towards Learning Mandarin using Mobile Learning (M-learning) based on Mastery Learning Concept and ARCS Model

Wan Noorashikin binti Wan Shamsuddin, Muhammad Fayyadh bin Mohd Azmi (MARA Professional College, Indera Mahkota Kuantan)

(abstract)

The increasing demand for learning Chinese as a second language (CSL) has brought attention to challenges such as vocabulary memorization. Students often struggle to retain the Chinese characters, a key factor in constructing sentences in Mandarin. Additionally, many learners experience low motivation due to the limited opportunities to practice speaking Mandarin in their daily environments. This is especially true for students growing up in societies where Malay or English is predominantly spoken, making the acquisition of Mandarin more difficult compared to native speakers. This study aims to investigate how mobile learning (M-learning), based on the Mastery Learning concept and the ARCS model (Attention, Relevance, Confidence, and Satisfaction), can enhance students' motivation and performance in learning Mandarin. A quantitative research method was employed, using a survey to collect data from 30 students selected through convenience sampling. The results indicate that M-learning, utilizing devices such as smartphones, tablets, and computers, can effectively support non-native speakers in improving their Mandarin learning experience. By leveraging these M-learning strategies, students showed increased motivation and improved performance, suggesting that this approach is a promising solution for enhancing Mandarin vocabulary acquisition.

2. Dogme ELT Method Inclusion's Impact on Engineering EFL Learners during the English Club: Speaking Skills Classes

Imanat Ali, Zuraina Ali, Ezihaslinda Ngah (Universiti Malaysia Pahang Al-Sultan Abdullah)

(abstract)

Speaking skill is equally important for EFL learners in all field of life in Saudi Arabia. Therefore, the Engineering EFL undergraduates also need to be proficient and fluent in English speaking skills. Dogme ELT, a communicative method which helps students to be proficient and fluent by using material from local culture during the speaking classes. English club is a voluntary speaking skill class in the Saudi EFL context which aims to provide learners opportunity to practice their skills outside the conventional classes. Hence, the inclusion of Dogme ELT method in English club needs to be evaluated among the Engineering EFL classes. The study adapted the mixed method research design to evaluate the student's perception and attitude toward using Dogme ELT method in speaking skills class. The data was collected from a survey and a semi-structured interview. The findings depicted that the students enjoy and appreciate the use of the method in the Speaking class due to its communicative nature, local material and engaging aspects. Furthermore, it allows them think critically and respond spontaneously which contribute to their proficiency and fluency. Therefore, it is suggested that the Dogme ELT method should be tailored in the speaking skills classes to achieve the fluency and proficiency goals specifically in the English club. The curriculum developer should promote such communicative method to achieve the speaking goals.

3. Blended Learning in EFL Teaching

Hafsa Pir Mukhtar (Universiti Malaysia Pahang Al-Sultan Abdullah)

(abstract)

In the realm of teaching English as a Second Language (ESL) and English as a Foreign Language (EFL), blended learning is an educational approach that blends traditional in-person instruction with online learning components. And it has become increasingly popular. The purpose of this study is to assess how well blended learning strategies can improve student engagement, language acquisition, and general academic achievement. The advantages and difficulties of blended learning in ESL/EFL environments are examined in this study using a thorough analysis of the body of current literature and a mixed-methods research approach that includes surveys, interviews, and classroom observations. According to research, blended learning may provide a more adaptable, engaging, and customized educational experience.

SESSION D: Learning Environment for Communication Enhancement

1. Enhancing Job Readiness through Global Classroom Initiatives: A Pilot Study on Mock Job Interviews in UHL2432

Hanisah Bon (Kasbon), Farah Liyana Ahmad A'azmey, Azimah Ahmad Zaki (Universiti Malaysia Pahang Al-Sultan Abdullah)

(abstract)

Providing job search and career skills is imperative for students' professional growth; however, a merely conventional formal learning method can often be uninteresting. To address this, implementing a more fun and innovative learning process, such as international collaborative approach, can be more engaging. This innovative learning strategy which is known as Collaborative Online International Learning (COIL), has been a popular tool for promoting the internationalisation of a course syllabus (Rubin, 2017). In response to this globalised landscape, Universiti Malaysia Pahang Al-Sultan Abdullah (UMPSA) has integrated a Global Classroom (GC) model, inspired by COIL, into its curriculum to foster international perspectives and professional skills. This study looks at how the GC initiative was implemented in the UHL2432 English for Professional Communication course, with a focus on a mock job interview assessment designed to enhance student preparedness and confidence. As this was a pilot run, one group from each section was randomly selected to participate, resulting in a total of eight students participating in the online mock job interview, although only seven completed the questionnaire. The findings show that most students felt well-prepared for the interview, with 86% rating it positively. While many expressed satisfactions with their preparedness, challenges in handling unexpected questions underscored the importance of adaptability. The mock job interview also increased students' confidence, with most feeling more assured afterward. Participants credited this improvement to enhanced communication skills, positive instructor feedback, and practical insights into interview preparation. Overall, the mock job interview successfully connected classroom learning to real-world job readiness, boosting students' preparedness and confidence for future interviews.

2. The Development of Blended learning for the Students of GEN412 Science and Art of Living and Working using Flipped Classroom as a Teaching Method

Niranuch Peekeaw, Kittiya Wongyai (Knowledge Exchange, King Mongkut's University of Technology Thonburi)

(abstract)

The purposes of this research are (1) to evaluate the quality of content in GEN412 (Science and Art of Living and Working), (2) to evaluate the students achievement after learning by Flipped Classroom method and (3) to study student's satisfaction toward KMUTT Learning Environment. Samples of this study were utilized

Blended learning to collect data by purposive sampling from 38 students, students studying GEN412 in the 2nd semester of academic year 2023. The data was analyzed by employing Mean and Standard Deviation for dependent samples. The result of this research study clearly revealed that: (1) The quality of content aspect was at very good level (2) The students learning achievement on post-test of Flipped Classroom method was statistically significantly higher than pre-test at 0.05 level (3) The student's satisfaction toward KMUTT Learning environment system using Flipped Classroom method was at very good level ($\bar{x}=4.70$, S.D.=0.47)

3. Preliminary Experiment on Verification of the Effect of Combining of Background and Text Colors during Calculation Tasks

Misaki Kobayashi, Kayoko H. Murakami (Shibaura Institute of Technology), Adilin Anuardi (Hiroshima University), Atsuko K. Yamazaki (Digital Hollywood University Graduate School)

(abstract)

Digital devices such as laptop PCs and tablets are becoming increasingly popular in education. Recently, almost 90% of Japanese elementary and junior high schools use tablets for learning. Many students at universities also use tablets to take notes for their classes and researches, making tablets an indispensable part of the modern learning environment. Several researchers have carried out studies to verify the effects of the combination of background and text colors of tablet and PC screens on the reduction of fatigue and readability during reading span tasks or counting figures. However, only a few studies have tried to figure out the effects during calculation tasks. In this study, we report on an experiment to verify the effects of different combinations of background and text colors of digital devices on readability and fatigue during a calculation task for university students by measuring changes in cerebral blood flow using Near Infra-Red Spectroscopy (NIRS).

20:55-21:00 (JST): Closing

Kayoko H. Murakami (Shibaura Institute of Technology) Chair, IEEE PCS Japan Chapter

* After the workshop, we will hold 2024 2nd PCSJ Technical Meeting. Non-members will be welcome.