

THE CHINESE UNIVERSITY OF HONG KONG

Funding Scheme to Enhance Student Engagement and Address Student Learning Needs supported by the Teaching Development and Language Enhancement Grant for 2022-25

Project Title: Ethical Use of Artificial Intelligence in Higher Education – How Can We Support Teachers and Students at CUHK?

Principal Supervisor(s) and Unit(s):

Professor LEE Wing Yan Vivian, Centre for Learning Enhancement And Research

Project Objectives

This research aims to establish a baseline of CUHK students' AI literacy, understand their perceptions of AI, develop and validate AI test questionnaires to assess their competencies, identify barriers to incorporating AI in tertiary education, evaluate the effectiveness of AI courses on students' readiness, assess differences in AI perceptions across majors, and provide learning support through workshops and micro-modules on the Centre webpage to enhance AI education.

Implementation and Deliverables

The project was implemented in three stages. Stage One involved designing questionnaires, obtaining ethics approval, and distributing surveys (July–Oct 2023). Stage Two focused on data collection and analysis using qualitative and quantitative methods (Sept 2023–Dec 2024). Stage Three refined and redistributed questionnaires, analyzed data, and disseminated findings through reports, workshops, micro-modules, conference presentations, and peer-reviewed publications. The project delivered five micromodules and videos to promote ethical AI use at CUHK. Longitudinal surveys, interviews, and data analysis were completed. Training workshops supported ethical AI use in classrooms. Two international presentations were delivered, and one peer-reviewed publication addressed AI ethics, motivation, and literacy in the Chinese context were in-print.

Outcomes and Achievements (including Impact on Teaching and Learning)

The project enhanced students' understanding of ethical AI principles, engaging a diverse group across demographics, disciplines, and study levels. Surveys revealed increased engagement when ethical AI's relevance was emphasized and identified links between ethical AI knowledge, self-identity, and social interactions. Addressing AI anxiety emerged as crucial for improving learning outcomes. Educational strategies improved teaching practices, supported autonomy, and empowered students and staff to navigate ethical challenges in technology effectively.

Evaluation

The AI-ethics project successfully achieved its objectives, focusing on ethical AI's impact on student motivation and engagement. Activities included developing a refined 15-question AI quiz and implementing comprehensive evaluations. Initial surveys engaged 1,046 participants, with 1,022 completing Stage 2. Anticipated challenges in Stage 3 participation were addressed through improved communication and incentives. Reflection highlighted strong achievements in KPI targets, though maintaining long-term engagement required proactive strategies to mitigate attrition.

Dissemination, Diffusion and Sharing of Good Practices

The project's processes and outcomes have been disseminated through workshops, conference presentations, micro-modules, and educational videos, while surveys and interviews facilitated collaborations within CUHK and beyond, highlighting effective engagement strategies and adaptable resources that can be replicated across different educational contexts.

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Project Title: Micro-modules for Chung Chi College Credit-Bearing Service-Learning Programme

Principal Supervisor(s) and Unit(s):

Dr. LI Chun Hong, Chung Chi College

Project Objectives

This project aims to promote eLearning in Credit-Bearing Service-Learning Programme (CSLP) courses enrolled by Chung Chi students and enhance their understanding of service-learning and their learning experiences.

Implementation and Deliverables

Student helpers contributed to service-learning videos through filming, editing, and voice-over, with Centre for Learning Enhancement and Research (CLEAR) managing final production. In June and September 2025, the micro-module videos will be played during the course introduction sessions of GECC3230 Service-Learning Programme and GECC1132 Learning through Serving: STOT, respectively.

Outcomes and Achievements (including Impact on Teaching and Learning)

The videos, incorporated into micro-modules, allow students to preview course content collectively before enrollment, diversifying teaching methods during lessons. Additionally, students can revisit the videos anytime, anywhere, eliminating time and geographical barriers. Students recruited for the project were equipped with video design and production skills.

Evaluation

Utilizing KPIs as measurement tools to evaluate target outcomes and achievements enables concrete assessment of student engagement levels in video production, the effectiveness of information delivery through the micro-module videos, and the impact on student learning outcomes reflected in Course and Teaching Evaluation (CTE).

Dissemination, Diffusion and Sharing of Good Practices

The videos have been uploaded to the College's YouTube channel and are now accessible for viewing anytime by students, teachers, and colleagues who wish to learn more about Chung Chi Service-Learning.

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Project Title: Micro-modules for Chung Chi College General Education

Principal Supervisor(s) and Unit(s):

Professor YAM Cheuk Sing Jason, Chung Chi College

Project Objectives

This project develops micro-modules in the form of short videos to support eLearning and flipped classrooms in Chung Chi College General Education courses, aiming to enhance students' understanding and enrich their learning experience. Students were actively engaged through video editing training and participation in the production process, fostering greater involvement and ownership.

Implementation and Deliverables

To support video production, the project partnered with a professional production house. Students were recruited and trained in video editing software, actively contributing to this project. Preparatory activities included a project research workshop, a focus group, and the collection of field study footage. These efforts helped shape the content and direction of the videos. Five short videos were produced for GECC1130, GECC1230, GECC3130, GECC3430, and GECC4130, and were shared on the College's social media platforms to introduce key themes and expectations.

Outcomes and Achievements (including Impact on Teaching and Learning)

The five videos accumulated 2,300 views within ten months. Students played an active role in the production process, contributing to filming, scriptwriting, and voiceover. They gained practical skills and deepened their engagement with the course content.

Evaluation

Post-project survey results indicated that students found the video editing workshop helpful for learning the software. They reported gaining practical skills applicable to both academic work and the workplace.

Dissemination, Diffusion and Sharing of Good Practices

The videos have been uploaded to the College's social media channels and are accessible anytime to students, teachers, and colleagues interested in learning more about the Chung Chi College General Education Programme.

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Project Title: AI Interview System for eLearning

Principal Supervisor(s) and Unit(s):

Professor KING Kuo Chin Irwin, Department of Computer Science and Engineering

Project Objectives

Develop an AI interview system for education that benefits students and teachers.

Implementation and Deliverables

We have implemented Tellus, an AI interview system that enables interviewers to conduct remote, asynchronous online interviews. Tellus analyzes interview performance across four categories — Content, Speaking, Listening, and Presentation — allowing interviewers to review aggregated reports for each session and side-by-side comparisons of up to 4 candidates. Deliverables include the AI system, a user guide, and instructional videos for interviewers and interviewees.

Outcomes and Achievements (including Impact on Teaching and Learning)

Tellus aligns with university objectives by enhancing students' interview skills through objective AI feedback, increasing accessibility with remote practice sessions, and supporting a personalized, student-centered environment.

Evaluation

The evaluation plan for the AI interview system included several key performance indicators (KPIs) designed to assess its functionality, user engagement, and overall effectiveness in enhancing students' interview skills. The plan effectively evaluated system adoption and the delivery of valuable insights.

Dissemination, Diffusion and Sharing of Good Practices

The AI Interview System is currently being used by students through the links posted on the Office of Student Affairs' website.

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Project Title: Innovative Digital Learning Space Drives Stimulus Motives in Quality of Education

Principal Supervisor(s) and Unit(s):

Dr. TANG Mei Kuen Florence, School of Biomedical Sciences

Dr. LAU Sin Nga Ann, School of Biomedical Sciences

Professor Olivia M.Y. NGAN, The University of Hong Kong

Mr. TANG Lik Hang Taylor, School of Biomedical Sciences

Mr. LAI Chung Hin Kenneth, Centre for Learning Enhancement And Research

Project Objectives

The project aims to create an inclusive, engaging Digital Learning Space or the Virtual Learning Environment (VLE), especially for students with Special Educational Needs (SEN), by integrating high-quality design and interactive activities. Through collaborative workshops, students co-design the VLE, ensuring it addresses diverse needs, enhances motivation and skills, and supports the university's commitment to sustainable, high-quality education.

Implementation and Deliverables

From October 2023 to December 2024, the project conducted qualitative and quantitative research comparing traditional teaching and learning spaces with those of health professional students and teachers and organized co-design workshops. Deliverables include four VLEs for active learning modules and a gamified leaderboard competition courseware, fostering engagement, collaboration, and innovation in hybrid and virtual education environments.

Outcomes and Achievements (including Impact on Teaching and Learning)

The project fostered digital transformation by co-designing innovative virtual learning spaces with students and teachers, enhancing engagement, motivation, and inclusivity. Outcomes include improved adoption of metaverse tools, actionable insights for curriculum development, and scalable strategies for interactive learning, supporting CUHK's goals of quality, student-centered, and sustainable education.

Evaluation

Evaluation revealed that while teachers prioritize knowledge delivery and applicable use of VLEs, students value engagement, creativity, and social interaction. Co-designing virtual spaces bridged these perspectives, boosting motivation and inclusivity. Ongoing reflection emphasizes early student involvement and teacher adaptability to sustain innovation and align with CUHK's educational goals.

Dissemination, Diffusion and Sharing of Good Practices

The primary studies serve as a strong role model for student-teacher co-design workshops focused on interactive learning, gamification, community outreach, and personalized reflection for knowledge acquisition. These practices have been widely disseminated through presentations, digital platforms, and workshops. Deliverables are accessible across CUHK, inspiring similar initiatives in multiple faculties. Emphasizing collaboration and adaptability, these strategies are being replicated and have strong potential for broader adoption in higher education.

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Project Title: A medical student-led initiative to enhance and promote psychological Resilience and Wellbeing using social media

Principal Supervisor(s) and Unit(s):

Dr. LEE Sau Wa Joyce, Kai Chong Tong Clinical Skills Learning Centre, Faculty of Medicine

Project Objectives

This project aims at engaging medical students to learn about and help promote psychological resilience and well-being, via social media. As a team, medical students created evidence-based contents and disseminated it via our dedicated social media account.

Implementation and Deliverables

A team of medical students were recruited to led the project; decided on content and topics related with psychological resilience and well-being they consider relevant to fellow medical students. They produced content on our Instagram page once a week. By end of project, students also summarized evidence-based information and created a digital magazine.

Outcomes and Achievements (including Impact on Teaching and Learning)

Based on the students' reflection on participating in the project, they revealed benefits such as learning strategies to manage challenges and demands of medical training; importance of self-care; better understanding of themselves and classmates. Effective communication skills working in a team, as well as interviewing skills from content creation. Social benefits of belonging in a team with a common goal. Last but not least, many students appreciated the opportunity to unleash their creativity and be rewarded of their creations. Feedback from audience medical students also reported they enjoyed our content; feeling topics were relatable and interesting, making them feel connected.

Evaluation

By end of project, our Instagram account has 417 followers; our contents have a total estimation of 60000+ views. Topics of our 45 posts included: "Crying & toxic positivity", "Social avoidance, Self-compassion, Music, Sports & resilience, Work-life balance, Burn-out, Insomnia & stress, Imposter syndrome, Self-criticism, Fear of missing out, Social media & perfectionism, Negative coping, Art & resilience, Food & stress. Our Digital magazine garnered 203 reads. Views for created contents will continue to grow as they remain accessible even project ends. Abstracts were accepted for presentation at 3 education conferences (e.g. AMEE, APMEC).

Dissemination, Diffusion and Sharing of Good Practices

This project is an example of student engaged as partners. Medical students add value to medical education, involving them in innovative curricular designs is valuable and impactful.

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Project Title: Modular Educational Escape Rooms: a Programme-level, Scalable Pedagogy for Enhancing Learning, Teamwork and Communication Skills

Principal Supervisor(s) and Unit(s):

Dr. LEE Sau Wa Joyce, Kai Chong Tong Clinical Skills Learning Centre, Faculty of Medicine

Dr. SEE Christopher, School of Biomedical Sciences

Project Objectives:

The escape room project aimed to revitalise teamwork and problem-solving in medical education by providing a physical, gamified learning space. Designed to break post-pandemic patterns of isolated e-learning, it emphasised on-campus collaboration, student-teacher co-design, and active, device-free learning experiences.

Implementation and Deliverables:

A modular escape room kit was co-developed with students and deployed in Medicine, Pharmacy, and with visiting students from HKU. Sessions included briefing, 45-minute team-based puzzle solving, and debriefing. Deliverables comprised a flexible kit, facilitator guides, video analytics, and robust assessment tools. Three major deployments engaged 84 students, generating comprehensive learning data.

Outcomes and Achievements (including Impact on Teaching and Learning):

Students reported significant gains in teamwork, communication, and confidence (self-rated confidence rose from 2.5 to 3.9/5), with engagement scoring 4.7/5. Teachers adopted more student-centred, active approaches, enhancing both staff and student competencies. The project's innovative design earned the CUHK Gold Award for Pedagogical Innovation and inspired adoption in other departments and at external universities.

Evaluation:

KPIs—engagement, teamwork, confidence, and academic performance—were robustly met. Mixed-methods evaluation, including MCQs, video, and feedback, captured both learning gains and experience quality. Future cycles may include longer-term follow-up and expanded staff engagement metrics.

Dissemination, Diffusion and Sharing of Good Practices:

Outcomes were shared via university-wide workshops, conference presentations, and sessions at Shue Yan University. The modular, co-design approach was recognised as a best practice for scalability and replication across disciplines and institutions.

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Project Title: Courseware Support for Local Students Taking CLCP3702 (Learning Putonghua through Movies)

Principal Supervisor(s) and Unit(s):

Ms. LIU Zhenxia, Yale-China Chinese Language Academy

Project Objectives

The project develops supporting courseware for the 2-unit course “Learning Putonghua through Movies” (CLCP3702) at the Chinese Language Academy. It includes open discussions and e-learning exercises to enhance students’ Putonghua skills, covering pronunciation and vocabulary differences between Putonghua and Cantonese. This courseware equips students with practical communication tools for real-world interactions with Putonghua speakers.

Implementation and Deliverables

In-class Micro-modules: Films on various topics, comparing Putonghua and Cantonese, and socio-cultural backgrounds.

Learning Resources: Scripts, media materials, and supplementary literature.

Enhancement of Participation: Online exercises to test familiarity and speaking skills.

Listening and Speaking Skills: Open discussions, film critiques, and after-class oral training linked to cultural topics and personal experiences.

Outcomes and Achievements (including Impact on Teaching and Learning)

The project enhanced student capabilities in Putonghua through engaging film critiques and discussions, increasing vocabulary and communicative competency. Pinyin scripts, vocabulary lists, and e-learning exercises aided understanding. Instructors adopted interactive teaching practices, boosting engagement. The project met its objectives, aligning with the University's goals of enhancing education quality, promoting language proficiency, and fostering a collaborative learning environment.

Evaluation

The project successfully met its objectives, providing essential tools for effective communication in Putonghua and aligning with the University's strategic goals.

Dissemination, Diffusion and Sharing of Good Practices

The project outcomes were shared at the CU Teaching and Learning Expo 2024 and at center-wide meetings at CLA, encouraging faculty members to adopt similar practices.

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Project Title: Localizing the Context for International Students Studying Putonghua in Hong Kong (CLCP3323 & 3353)

Principal Supervisor(s) and Unit(s):

Dr. WONG Ho Put, Yale-China Chinese Language Academy

Project Objectives

This project aims to develop new intermediate Putonghua course materials for IUG and exchange students. These materials cover topics such as Hong Kong's representative cuisine, old buildings from the colonial era, squatter areas, industrial development, lion dance, religion, Western and Chinese medicine, and weddings and funerals. Students will learn about these topics from the basics to in-depth levels through classroom learning, field trips, and authentic language assignments (serving as tour guides for Putonghua speakers).

Implementation and Deliverables

Two sets of teaching materials for CLCP3323 and CLCP3353 have been prepared for internal use in fall term and spring term 2024-25, and will be further modified for formal publication.

Outcomes and Achievements (including Impact on Teaching and Learning)

By localizing teaching content, combining teaching materials with field trips, and providing students with opportunities to serve as tour guides, students' Chinese listening, speaking, and reading abilities have been improved, their understanding of Hong Kong has been enhanced, and teaching effectiveness has been improved.

Evaluation

Overwhelmingly positive student feedbacks have been collected through focus group interviews and term-end questionnaires in 2024 fall (CLCP3323) and 2025 spring (CLCP3323 & CLCP3353).

Dissemination, Diffusion and Sharing of Good Practices

The project has been shared at the CU Teaching and Learning Expo 2024, a conference on teaching Chinese as a second language, and will be shared in a departmental teacher training workshop scheduled for summer 2025, plus a conference (to be confirmed).

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Project Title: ‘Introduction and Application of Dignity Dining’ Through Innovative Workshops: A Novel and Pioneering Approach to Create Awareness and Compassion on Elderly Care in Medical Students

Principal Supervisor(s) and Unit(s):

Dr. HWANG Shui Shan Isabel, School of Biomedical Sciences

Dr. YEUNG Hang Mee, School of Biomedical Sciences

Project Objectives

To raise awareness and inspire compassion in medical students towards elderly care through dignity dining workshops and community service.

Implementation and Deliverables

Our project team was able to complete the following project tasks as outlined in the application proposal. We successfully conducted two dim sum softmeal making workshops on 28th October 2023 and 4th November 2023 respectively and the Sensory Restaurant on Wheels was conducted on 23rd March 2024. The latter served a total of 48 elders with dementia and difficulty swallowing in a local nursery home.

Outcomes and Achievements (including Impact on Teaching and Learning)

- We were able to demonstrate that there was a significant improvement in awareness for dignity dining and elderly care. For example,
 - Student participants disagreed more that elderly losing the ability to enjoy dining is inevitable.
 - Student participants disagreed more that it is acceptable for the elderly to have bland soft meals.
 - Student participants agreed more that nutrition contributes greatly to the elderly’s quality of life
 - Student participants disagreed more that the current effort to ensure dignity dining in elderly is enough.
- We shared our results and project experiences at *3 local and overseas conferences* and received one silver award on educational impact.

Evaluation

- Student participants in the workshops were asked to complete a pre-workshop and a post-workshop survey so that we could evaluate the progress of this project. A small focus group interview was also conducted to obtain more open-ended comments from the student participants.

Dissemination, Diffusion and Sharing of Good Practices

The CUHK Center for Bioethics is interested in duplicating our project initiatives on a larger scale in the near future so that more dignity dining workshops and the Sensory restaurant on wheels can be conducted in a continuous manner.

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Project Title: GenAI Playground: Developing Traceable and Responsible Student Uses of Generative AI for Education

Principal Supervisor(s) and Unit(s):

Dr. SEE Christopher, School of Biomedical Sciences

Project Objectives

This project aimed to introduce a transparent and responsible use of Generative AI (GenAI) in medical education by establishing a “GenAI Playground” within the anatomy laboratory. The objective was to enhance student engagement and digital literacy, while providing teachers with insights into student learning behaviours and effective AI integration for future curriculum development.

Implementation and Deliverables

A dedicated GenAI Playground station was set up in the anatomy lab, where 152 students participated learning via a GPT-4-based AI, starting with anatomy but branching into bioethics discussion and obstetrics and gynaecology. Key activities included co-design of learning objectives, systematic collection of chatlogs and feedback, and integration of AI-assisted tasks into course modules. Deliverables included a comprehensive database of interactions, a university-wide sharing session and a conference presentation with accompanying manuscript submission.

Outcomes and Achievements (including Impact on Teaching and Learning)

The project significantly improved students’ digital literacy, critical thinking, and confidence in using AI. Students valued experimenting with GenAI for summarisation, question generation, and fact-checking. Teachers shifted towards more facilitative, student-centred roles, and gained actionable insights into AI-enabled learning. The project exceeded participation targets, expanded to a clinical department, bioethics classroom and was foundational for further AI innovations such as the POLAR system.

Evaluation

KPIs were met or exceeded, with high student satisfaction and successful dissemination activities. Evaluation frameworks effectively captured engagement, learning gains, and changes in teaching practice.

Dissemination, Diffusion and Sharing of Good Practices

Findings were shared at university-wide sessions and conferences, leading to adoption in additional courses. Good practices—such as transparent AI use and student co-design—were identified and promoted for sector-wide replication.

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Project Title: Using Contextualized Mathematics Problems to Increase Students' Knowledge from the Secondary to Freshman Level

Principal Supervisor(s) and Unit(s):

Dr. WONG Chak Fu Jeff, Department of Mathematics

Project Objectives

Develop an online contextualized, problem/project-based platform as a literacy strategy to enhance first-year students' mathematical understanding and their ability to represent real-life situations. This platform will support freshman-level coursework and related subjects through the integration of visualization tools, symbolic solvers, chat-based media, and sound recording software.

Establish a computational literacy learning environment that situates mathematical problems in real-life contexts—using both real and synthetic data—and guides students through algorithmic, step-by-step solutions paired with hands-on, experiential activities.

Provide a personalized learning experience that helps students transition seamlessly between mathematical, fictional, and realistic contexts. The platform will enable students to deconstruct contextualized problems or projects into manageable sub-problems, revisit foundational mathematical knowledge, strengthen problem-solving skills, and bridge the gap from secondary to freshman-level proficiency.

Implementation and Deliverables

All five units were completed, covering topics from quadratic equations and inequalities to sets, functions, linear algebra, regression, and probability.

Interactive platforms were developed using R Shiny and Azure's ChatGPT, incorporating a wide range of widgets to enhance engagement. The CUBES framework was integrated, along with a self-checkpoint system that tracks student performance and time spent on word problems.

These tools promote active learning, deepen conceptual understanding, and strengthen students' mathematical problem-solving skills.

Outcomes and Achievements (including Impact on Teaching and Learning)

More than 20 contextualized RShiny and Azure's ChatGPT applications were developed across the topics of Algebra, Sets and Counting, Linear Algebra, Data Analysis, and Probability. To promote these resources: MATH3280 (2024–2025) enrolled over 50 students.

UGEB2530 (2024–2025) enrolled over 150 students.

Three popular science talks were delivered, attracting a total of 320 students.

Sixteen workshop-style EBD lectures were conducted, attended by 400 secondary students, 290 primary students, and 150 teachers.

Two online and one face-to-face conference presentations were delivered.

Two conference chapters were completed.

Evaluation

An online resource was developed for MATH3280, supporting 50 students in 2024–2025 through innovative teaching methods. These included Socratic questioning with Azure’s ChatGPT and visualized problem-solving of probability word problems. The project outcomes were shared via one in-person and two virtual presentations (local and international), and documented in two published conference chapters.

Dissemination, Diffusion and Sharing of Good Practices

Four popular science talks were conducted for local secondary school students. The topics covered included:

Solving the Most Elegant Quadratic Equation

The Magic of e and Logarithms

Data Fitting and Its Applications

Sixteen workshop lectures were organized to promote mathematical modelling for teachers and students in secondary schools, offered by the Education Bureau (EDB).

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Project Title: Using AI Meeting Assistants to Support First-Year Students in English-Medium Lectures - Application Research and Teaching Practice

Principal Supervisor(s) and Unit(s):

Dr. KWOK Pak Ki Alex, Data Science and Policy Studies Programme

Project Objectives

This project aimed to support first-year students' comprehension and engagement in English-medium lectures by integrating AI Meeting Assistants (AIMAs) for real-time transcription, captioning, and notetaking.

Implementation and Deliverables

The project comprised two phases: (1) software evaluation involving 20 CUHK students who assessed 10 AIMAs using ISO/IEC 25010 criteria and the TOPSIS method; and (2) student experience testing across three CUHK courses (DSPS1004, DSPS2501, ELTU1002) using a mixed-methods approach. Deliverables included a software evaluation report, a user experience report, a project video, a website, three workshops, one peer-reviewed publication, and a conference presentation.

Outcomes and Achievements (including Impact on Teaching and Learning)

The software evaluation successfully identified the most suitable AIMA for enhancing English-medium lectures. Student experience testing revealed that AIMAs enhanced accessibility, reduced cognitive load, and supported language comprehension. Students expressed higher academic confidence and A-grade expectations, indicating the tool's potential to foster deeper learning and self-efficacy in English-medium instruction.

Evaluation

The project achieved or exceeded the majority of its reflective KPIs, demonstrating strong impact across technical, pedagogical, and institutional dimensions. It contributed valuable insights into AI integration in higher education and provided a replicable framework for evaluating similar technologies in future initiatives.

Dissemination, Diffusion and Sharing of Good Practices

Findings were widely shared through CLEAR-hosted workshops, a dedicated website, and academic publications. The project has informed teaching practices across faculties and lays the foundation for future research on the educational application of AI tools, including chatbots and AI-powered presentation generators.