THE CHINESE UNIVERSITY OF HONG KONG

Funding Scheme for Engaging Postgraduate Students in Teaching and Teaching Development supported by the Teaching Development and Language Enhancement Grant for 2022-25

Project Title: Reviving Learning Atmosphere of Classical Chinese Literature in CUHK: Implement of Digital Humanities in Literary Criticism

Principal Supervisor(s) and Unit(s):
Professor SIU Chun Ho, Department of Chinese Language and Literature
Ms. AU-YANG Tak Wing, Department of Chinese Language and Literature

Project Objectives

A sharp decline in students choosing classical Chinese literature for their theses has highlighted the urgent need for better digital support at CUHK. This project addresses the gap by creating the first comprehensive database of classical literary criticism, focusing on poetry remarks and built with OCR technology. It supports multiple courses and promotes digital humanities through tutorials, sharing sessions, and an upcoming conference presentation.

Implementation and Deliverables

1 website was produced, 1 journal paper and 1 oral presentation were conducted. 1 sharing session was organized.

Outcomes and Achievements (including Impact on Teaching and Learning)

The platform now supports real-time updates by administrators, with student feedback responses leading to typo corrections and new e-texts. A pioneering DH sharing session introduced tools like GPT, OCR, and GIS, sparking strong student interest. Postgraduates proposed further usage of databases in tutorials as well as possible TDLEG projects, while undergraduates expressed enthusiasm for applying DH tools in research and thesis work.

Evaluation

Over 20% raise of final year undergraduate students choosing Classical Chinese Literature as the theme of research in CHLL 4001/4002 “Independent Research”, as well as a significant improvement of teaching evaluation scores are observed.

Dissemination, Diffusion and Sharing of Good Practices

The supervisors have actively promoted database use beyond CUHK, encouraging MA and graduate students to apply it in schools and other institutions. Collaborations with libraries and universities are underway, with future teaching grants in view. Over 30 undergraduates joined OCR and proofreading tasks, improving learning through direct engagement. Postgraduates’ research insights and text corrections are now integrated into the database for broader sharing.

THE CHINESE UNIVERSITY OF HONG KONG

Funding Scheme for Engaging Postgraduate Students in Teaching and Teaching Development supported by the Teaching Development and Language Enhancement Grant for 2022-25

Project Title: Implementing acupuncture knowledge of ancient medical texts from Japan in Teaching and Writing

Principal Supervisor(s) and Unit(s):
Professor JIANG Yuanan, School of Chinese Medicine
Mr. LU Guoan, School of Chinese Medicine
Ms. LEUNG Wai Kei, School of Chinese Medicine

Project Objectives

There are 4 project objectives :1) Encourage academic exchanges between TCM postgraduates and undergraduate students by teaching the knowledge and techniques of studying ancient medical texts.2) Improve the research ability of TCM undergraduate students, such as reading ancient literature, philology, collation, etc. 3) Promote the study of ancient Chinese medical texts by digitizing the ancient literature. 4)Popularize the knowledge of acupuncture recorded in ancient medical texts by filming videos and taking pictures and help students practice in clinical.

Implementation and Deliverables

A comprehensive database of ancient medical texts, including original manuscripts and translated versions, organized thematically for ease of access. 40 High-quality video resources demonstrate various acupuncture techniques, featuring expert commentary and practical insights. 4 Workshop materials, including handouts, and presentations, designed to facilitate learning and teaching.

Outcomes and Achievements (including Impact on Teaching and Learning)

The workshops facilitated rich interactions between students of different academic levels, fostering an environment of mutual learning and respect. The database and multimedia resources (40 videos) created during the project have been well-received, indicating a strong foundation for ongoing academic exploration of ancient medical texts.

Evaluation

The original KPIs were effective in measuring the project's outcomes, with most targets being met or exceeded. Workshops, the creation of the database, and the production of videos were key components in building students' skills and confidence. Conference presentations and publications were also achieved, indicating strong academic engagement.

Dissemination, Diffusion and Sharing of Good Practices

The project successfully disseminated its processes, outcomes, and deliverables through various channels, ensuring a broad impact within and beyond CUHK. Key dissemination activities included workshops, the online literature database, multimedia resources, conference presentations, and publications. Strategies for replication across the sector include detailed documentation of training programs and open access resources.

THE CHINESE UNIVERSITY OF HONG KONG

Funding Scheme for Engaging Postgraduate Students in Teaching and Teaching Development supported by the Teaching Development and Language Enhancement Grant for 2022-25

Project Title: Engaging Postgraduate and Undergraduate Students to Collaboratively Develop Micro-modules to Support the Special Learning Needs of the Post-Pandemic Era Chemistry Freshmen on Practical Chemistry

Principal Supervisor(s) and Unit(s):
Dr. MAK Kin Wah, Kendrew, Department of Chemistry

Project Objectives

The project aims to create 10-12 micro-modules focusing on basic chemistry lab techniques for chemistry freshmen lacking prior lab training. Each module features demonstrations by experienced students and highlights common mistakes. Postgraduates lead and advise, improving teaching skills and gaining supervisory experience. Undergraduates contribute to module development, gaining valuable teaching experience.

Implementation and Deliverables

In this project, 11 micro-modules on basic chemistry laboratory techniques were created, totaling 90 minutes. These modules demonstrate correct laboratory operations and common mistakes made by junior undergraduates. One experienced postgraduate student served as a co-supervisor, overseeing the preparation, ensuring quality, and evaluating the modules through trial use. Four postgraduate and six final-year undergraduate students collaborated on scriptwriting, video production, and quality assurance. The modules were piloted with 41 students and are available to students via Blackboard in the first semester of 2024-25.

Outcomes and Achievements (including Impact on Teaching and Learning)

The project evaluated the effectiveness of micro-modules in enhancing students' laboratory skills through three phases, showing improved quiz and task scores among students who watched the modules. Approximately 160 chemistry students benefit annually, with demonstrators noting improved performance. Additionally, postgraduate and undergraduate students gained valuable experience in producing virtual teaching resources, boosting their confidence and skills. Focus group feedback highlighted the project's positive impact on their teaching and laboratory techniques.

Evaluation

The project adhered to its original plan and timeline, producing 11 effective micro-modules. Quality assurance was ensured through evaluations by experienced postgraduate students and a research assistant. The project involved 10 students, enhancing their skills and confidence. The micro-modules will be integrated into courses and shared on platforms like Blackboard and YouTube, benefiting future cohorts. The project model can be replicated with support, and resources will be shared with CUHK(SZ), promoting collaboration and enhancing teaching quality.

Dissemination, Diffusion and Sharing of Good Practices

The project's deliverables were adopted in three chemistry courses, benefiting around 160 students annually. Dissemination efforts included sharing sessions at CUHK (Shatin) with teachers and postgraduate students, a seminar by CLEAR, and information sessions within the Science Faculty. Additionally, the project was shared with 28 participants at CUHK (SZ) during a seminar series, fostering collaboration. The project was also presented as a poster at the CUHK Teaching and Learning Innovation Expo 2024, further promoting its outcomes and practices.

THE CHINESE UNIVERSITY OF HONG KONG

Funding Scheme for Engaging Postgraduate Students in Teaching and Teaching Development supported by the Teaching Development and Language Enhancement Grant for 2022-25

Project Title: Interactive Notebooks for Undergraduates: Developed by Postgraduate Students

Principal Supervisor(s) and Unit(s):
Professor YAN Yangqian, Department of Physics

Project Objectives

Manage and maintain a server hosting interactive Jupyter notebooks and develop pedagogical content. The notebooks replace conventional homework, provide self-learning micro-modules, and support classroom teaching. By offering an open-source, low-barrier learning environment, students can test code incrementally without complex setup requirements. It reduces administrative burden for instructors while making abstract concepts tangible through interactive visualizations.

Implementation and Deliverables

Deployed/maintained a server for two years and will continue to maintain it. We observe high adoption of Python and Jupyter Notebook users. We established routine meetings with the postgraduate students to produce contents: including more than 40 notebooks and 10 tutorial videos.

Outcomes and Achievements (including Impact on Teaching and Learning)

Student engagement markedly improved through interactive visualization of complex physics concepts. Despite 64.3% having no prior Python knowledge, survey results revealed strong adoption rates and positive feedback on Python's accessibility. The project advanced institutional goals of knowledge boundary crossing while promoting equality in learning through device-agnostic design that removes traditional technical barriers for students.

Evaluation

All KPIs were met without refinement. Service has been used by more than 100 students, more than 5 courses/instructors.

Dissemination, Diffusion and Sharing of Good Practices

We contributed the development of jupyter lab via submitting issues and solutions, benefiting students and teachers around the globe. We open accessed the tutorials. Colleges from department of statistics are interested in our approach.

THE CHINESE UNIVERSITY OF HONG KONG

Funding Scheme for Engaging Postgraduate Students in Teaching and Teaching Development supported by the Teaching Development and Language Enhancement Grant for 2022-25

Project Title: Adopting Experiential Approach for Parent/Public Education on Understanding Autistic Children

Principal Supervisor(s) and Unit(s):
Professor SO Wing Chee Catherine, Department of Educational Psychology
Dr. LAM Ho Wai, Department of Educational Psychology
Dr. ZHANG Xin, Department of Educational Psychology

Project Objectives

1. Train pre-service teachers to support parents of autistic children.
2. Enhance parents' skills in understanding and interacting with their children.
3. Raise autism awareness among university students.

Implementation and Deliverables

1. Trained 11 pre-service teachers in autism communication strategies.
2. Conducted an 8-week experiential workshop for 19 parents (95% attendance).
3. Developed video-based training for 100 university students to broaden impact.

Outcomes and Achievements (including Impact on Teaching and Learning)

1. Pre-service teachers showed improved self-efficacy (2.78→3.03/4) and excelled in engagement (avg. 14.5/15 in reflections).
2. Parents valued hands-on activities that increased their understanding and empathy of autism.
3. Awareness videos effectively educated university students in general.

Evaluation

Participant feedback, attendance records, and performance metrics (e.g., average scores of 4.5/5 for attendance and 14.5/15 for reflection essays) proved that the program was effective in facilitating learning of both pre-service teachers and parent of autistic children. Regular consultations with professionals ensured the quality of our program.

Dissemination, Diffusion and Sharing of Good Practices

1. Shared experiential learning methods at Yew Chung College workshop.
2. 1 publication on the effectiveness of video-based training in enhancing autism awareness and knowledge among university students under review.

THE CHINESE UNIVERSITY OF HONG KONG

Funding Scheme for Engaging Postgraduate Students in Teaching and Teaching Development supported by the Teaching Development and Language Enhancement Grant for 2022-25

Project Title: Engaging Students in Teaching and Learning Activities in Sports Biomechanics Courses: STEM Concept-Blended Approach

Principal Supervisor(s) and Unit(s):
Professor YANG Yijian, Department of Sports Science and Physical Education
Mr. HO Cheuk Yin, Department of Sports Science and Physical Education

Project Objectives

Engaging youth in STEM education is crucial to prepare them for the future. Students taking sports biomechanics courses at different levels (SPED2610, SPED4640, SSPA6205, and SSPA6206) usually lack training in STEM education and face challenges centering on understanding physics and mathematics concepts. Therefore, the project aimed to enhanced students' understanding on biomechanics concepts and their competence in STEM education settings through a STEM concept-blended approach.

Implementation and Deliverables

A STEM concept-blended approach with the following components was delivered in the context of sports biomechanics:

- E-learning micro-modules for pre-study and revision
- Easy-to-use software (e.g., Dartfish) for movement analyses
- STEM teaching tools constructed by simple materials
- Alternative assessment mode based on sports biomechanics teaching

Outcomes and Achievements (including Impact on Teaching and Learning)

Through the project deliverables and the introduction of novel learning activities (e.g., in-class debates and practical sessions at the University Swimming Pool), students developed ownership of their learning, critical thinking, and generic skills for group work. The principal investigators (course teacher and teaching assistant) developed creativity and a learner-centred mindset in teaching development.

Evaluation

Overall, students' interests in biomechanics improved, according to class attendance, enrollment figure in elective courses and OCTE scores. Further effort in enhancing students' understanding of biomechanics concepts is needed.

Dissemination, Diffusion and Sharing of Good Practices

The project team has disseminated good practices at the Teaching and Learning Innovation ExPo and Hong Kong PE Teachers Conference, targeting a broad community of physical educators.

THE CHINESE UNIVERSITY OF HONG KONG

Funding Scheme for Engaging Postgraduate Students in Teaching and Teaching Development supported by the Teaching Development and Language Enhancement Grant for 2022-25

Project Title: A Novel 3D Visual Teaching Modality in Exploration of the Myocardium for Undergraduate Biomedical Students

Principal Supervisor(s) and Unit(s):
Dr. Attaur RAHMAN, Department of Medicine and Therapeutics – PhD student
Professor ONG Sang Bing, Department of Medicine and Therapeutics

Project Objectives

Objectives:

(i) Enhancing students' understanding and appreciation of the 3D/multidirectional overview of the myocardial structure compared to conventional 2D images.

(ii) Engaging students in active and students-centered learning via production of 3D /multidirectional images

Implementation and Deliverables

The expected activities of the project was delivered to students of MSc in Cardiology 2023-24 (Summer Term), Faculty of Medicine, CUHK, 14 May 2024 and Cardiovascular Physiology (MEDU2400) for Year 2 MBChB, CUHK, Sept – Dec 2024.. The 2 research postgraduate students – Dr Attaur Rahman and Dr Li Yuhao have participated in sourcing and producing the images for structure and position of the mitochondria, heart and blood vessels used for teaching of the Yr 2 MbChB students as well as Masters in Cardiology students.

Outcomes and Achievements (including Impact on Teaching and Learning)

We showcased visualization of the myocardium, major blood vessels, spatial syncytial arrangement of cardiomyocytes and mitochondria in cardiomyocytes.

Evaluation

Innovative approaches and pedagogies in teaching

The 2D/3D teaching model was applied to students of MSc in Cardiology 2023-24 (Summer Term), Faculty of Medicine, THE CHINESE UNIVERSITY OF HONG KONG, 14 May 2024 and Cardiovascular Physiology (MEDU2400) for Year 2 MBChB, CUHK, Sept – Dec 2024.

External collaborations established

Collaborations were established with Naresuan University, Phitsanulok, Thailand with adaptation of both innovative 3D vs conventional 2D teaching models.

Dissemination, Diffusion and Sharing of Good Practices

We have maintained records of the project's progress, methodologies, and results including documenting the process of creating the visual teaching images and instructional materials.

THE CHINESE UNIVERSITY OF HONG KONG

Funding Scheme for Engaging Postgraduate Students in Teaching and Teaching Development supported by the Teaching Development and Language Enhancement Grant for 2022-25

Project Title: Design Thinking for Prototyping, Automation, and Sustainable Material Use

Principal Supervisor(s) and Unit(s):
Mr. FINGRUT Adam, School of Architecture

Project Objectives

Design thinking methods are essential for architecture students, fostering a human-centered and iterative approach to problem-solving, prototyping, and sustainable design. As computational tools and robotics become integral to the field, proficiency in digital design and fabrication is crucial. Architectural education must incorporate training in these technologies within an iterative framework, balancing traditional analog techniques, contemporary computational tools, and emerging AI-assisted systems. By exploring the unique challenges, limitations, and opportunities of each approach, students refine their design processes and expand their creative potential.

Implementation and Deliverables

This project integrates postgraduate students, fostering collaborative, experiential learning rooted in design thinking and technical proficiency. Workshops, prototyping, and documentation equip students to navigate architectural complexities while dissolving disciplinary boundaries. Emphasizing ethical material usage and adherence to global standards, the program develops skills in computational literacy, robotics, microprocessors, sensors, and CNC fabrication. Instructors refine course structuring to enhance pedagogical practices and fortify robust design identity.

Outcomes and Achievements (including Impact on Teaching and Learning)

By reducing the financial barriers to prototyping, this project enables students to work within constrained budgets while mitigating risks. As a result, they can take greater intellectual risks by translating ideas into prototypes and refining them iteratively. Although prototyping often necessitates the elimination of less viable iterations, framing workshops as iterative explorations encourages acceptance of refinement as a process of removal. This acknowledgment of “failed ideas” enriches the learning experience, as reflected in progressive presentations and evaluations

Evaluation

This project integrates didactic modules into student work, making every project a reference for future learning. Rigorous tracking has ensured complete participation in discussions, presentations, and peer reviews, emphasizing collaboration. Exhibition and assessment events provide critical feedback from industry and academic experts. Innovative teaching shifts students from traditional paper designs to sustainable, cost-effective prototypes that address real-world constraints.

Dissemination, Diffusion and Sharing of Good Practices

This project is presented at KEEP, CLEAR ELITE, and AMPS conferences, inviting professional educators – including directors from CUHK CLEAR and ELTU – to engage hands-on with students’ dining pavilion projects. Events commence with concise briefings on pedagogical methods, funding acknowledgments and interaction guidelines, fostering direct experience and collaborative learning.