



# 戮力同心

## 專訪 香港教育研究所副所長 莊紹勇教授

自 2016 年起，莊紹勇教授開始在研究所轄下的學習科學與科技中心（Centre for Learning Sciences and Technology, CLST）擔任總監一職，一直以來與研究所緊密合作，開展多個教育項目，致力透過科技提升教學質素。本年度，莊教授與研究所的連結更進一步，於 8 月起擔任研究所副所長一職，他對此深感榮幸：「如果多了一個角色的話，我想我可以嘗試將我自己中心（CLST）一些做得比較成功的經驗，分享給其他中心知道，令各個中心都可能會有更好的發展。」他希望研究所未來不僅能為本港教育界服務，還能將優秀的研究項目和成果推廣至其他地區。



莊教授近年帶領 CLST 積極推動多項大規模創新科技學習計劃，借助科技豐富了本港中、小學生的學習體驗，並提升了教學效能。他對香港賽馬會慈善信託基金捐助的「觸境生情」虛擬實境中國語文教學計劃印象特別深刻，該計劃亦是他提及 CLST 的「成功經驗」之一。計劃使學生接觸由虛擬實境技術建構的學習平台 EduVenture-VR®，學生只需戴上虛擬實境眼鏡，便能親歷文學作品中的場景，激發他們在寫作中聯繫

## 「近年人工智能技術的興起，為教育界帶來新的機遇；如何令學生正確認識並妥善使用人工智能工具已成為教學上的一大挑戰。」

對日常環境的觀察和反思，投入更多真情實感，加強其讀寫能力。該計劃獲得廣泛且正面的迴響，參與學校表示計劃增加了學生學習中文的興趣，學生的中文寫作能力有明顯進步。莊教授指，計劃順利展開，至今已進入第六年，教材選材亦由本地的文學作品擴展至內地、台灣、新加坡、馬來西亞的華文文學作品，受惠學生的層面不斷擴大，預計第二期的參與學生人次將超過兩萬。

談及近年人工智能技術的興起，為教育界帶來新的機遇，莊教授指出，如何令學生正確認識並妥善使用人工智能工具已成為教學上的一大挑戰。雖然人工智能可提升學生的整體學習體驗，但亦可能對學生的長遠學習效能產生影響。他解釋：「學生如果任意去使用（人工智能工具）的話，很容易便獲取到知識，不像我們以前讀書的時候，深入去學習和理解，經過反思（的過程），從而將書本的內容轉化為自己的知識、技能。」他補充說：「一般的教師對人工智能的了解尚處於起步階段，近幾年才開始接觸相關概念，因此並不熟悉這方面的趨勢。」為了支持教師應對這一挑戰，莊教授提到CLST目前正通過YouTube頻道，陸續製作及上傳在校教師分享人工智能應用於教學的影片，為教育界提供參考。他相信，接下來的一項重要任務是設計全新培訓課程，幫助教師更具體地掌握將人工智能元素融入教學的方法。他希望未來研究所能舉辦相關主題的工作坊，為教師提供實踐經驗，進一步推動人工智能技術在教育中的應用，以提升教學效能。

在推動人工智能技術應用於教育的同時，莊教授亦關注研究所內部不同中心之間的協作潛力。他指出，研究所未來除了繼續恆常的教師培訓工作，可以進一步推動中心之間的合作，促進資源與經驗的共享。他相信電子學習、人工智能等概念「放諸四海皆通」，適用於各中心不同方面的發展。他以香港教育領導發展中心為例，該中心經常接觸學校的中高級領導層。

因此，莊教授希望以香港教育領導發展中心為切入點，透過合作舉辦相關工作坊或研討交流，了解學校領導在推行創科課程時的顧慮，及後便可更有針對性地設計和推行新課程，以回應普遍學校的實際需要，並調適教學方法。這樣的合作不僅有助於推動在校創科教育的發展，更能使學校領導層在過程中了解更多創科教育的發展趨勢，甚或改變對創科教育的固有思維觀念，為學校的創科教育帶來更多可能性，推動學校長遠發展。



莊教授現為香港教育城和香港資優教育學苑董事會成員，與不同教育界組織保持緊密聯繫，並在各種場合中多次與教育局官員討論教育議題。莊教授認為這種多方交流的機會正是研究所的一大優勢，研究所不僅與學界保持密切合作，還經常深入校園展開研究，充分掌握前線教育工作者在教學上的實際需求和期望。同時，教育局一直以開放態度與學界保持溝通，願意嘗試接受多元教育思維和觀點，這為研究所的工作帶來了更多契機。莊教授期望未來研究所能繼續積極參與各類教育政策的討論，發揮連絡學界、研究所、教育局三方的橋樑角色，成為政府審視學界需求和試行新計劃的媒介。展望將來，莊教授更希望研究所能在大中華區，甚或在國際教育研究領域中擔當重要角色。



*Distinguished guests and all stakeholders of the Project gathered for a group photo in the closing ceremony*

## Closing Ceremony of Jockey Club Community Care and STEM in Action Project: Leveraging Technology to Elevate the Well-being of the Disadvantaged

Jockey Club Community Care and STEM in Action Project (the Project) was successfully completed when the curtain pulled down on its closing ceremony on 14 October 2023. Launched in September 2019, the Project was sponsored by the Hong Kong Jockey Club Charities Trust and coordinated by the Centre for Learning Sciences and Technologies (CLST), with support from the Hong Kong Institute of Educational Research and Lok Sin Tong Yu Kan Hing Secondary School. Over four years, guided by the Project team, teachers and CUHK Faculty of Engineering's student mentors as well as social service organizations and entrepreneurs, students from six participating secondary schools used STEM knowledge to develop 21 innovative smart products, helping elderly and disadvantaged communities solve daily challenges.

The Project encouraged students to observe their surroundings, empathize with others' needs, and creatively apply STEM skills to address everyday problems. This experience allowed students to turn their creative ideas into practical designs, learning the process of design thinking, from conceptualization to production and promotion.



*Prof. Morris Jong (far left), Prof. Isabella Poon (second from left), and Mr. Armstrong Lee (centre) received a briefing from the student representatives*

Professor Morris Jong, Principal Investigator of the Project and Director of CLST, hoped that students would apply STEM knowledge outside the classroom, using creativity and problem-solving skills, to explore and address the challenges faced by vulnerable groups. Professor Poon Wai-yin, Pro-Vice-Chancellor (Education) of CUHK, highlighted that the Project embodied CUHK's mission by promoting innovation, moral education, and community service, contributing to the well-being of elderly and disadvantaged groups.

The students' impressive innovations spanned various aspects of daily life, including clothing, food, housing, transportation, and entertainment. Their creative designs were with a wide range of functions and a focus on user-friendliness. The beneficiaries included the elderly, the visually impaired, the hearing impaired, wheelchair users, residents of shared housing, and people living in small spaces. For example, the team from Carmel Holy Word Secondary School developed a Railway Safety Device for the Hearing-impaired, which used flashing lights to help those with hearing impairments avoid accidents at train doors. The



Among the showcased products was HALE-WARE — adaptive utensils for the elderly

team from Hong Kong Baptist University Affiliated School Wong Kam Fai Secondary and Primary School designed Hale-Ware, and the team from Pentecostal Holiness Church Wing Kwong College created the Smart Dining Assistant, both of which aimed to make dining easier for individuals with limb disabilities or other physical challenges. At the ceremony, all 21 products were showcased, with students presenting these products, demonstrating their features and functions, and sharing their development experiences.

During the ceremony, a video highlighting the Project's milestones was played. In the video, students expressed gratitude to organizations like the Direction Association for the Handicapped, Hong Kong Blind Union, and Silence, which provided them with valuable insights into the needs of the target beneficiaries. They also acknowledged the significance of their learning journey and vowed to continue using technology to help others. Trophies and certificates were awarded to the students for their outstanding contributions while appreciation certificates were given to the Project's collaborators for their support.

Student representatives from the participating schools shared their experiences, noting that the Project provided a unique opportunity to apply STEM knowledge in real life, fostering empathy and social responsibility.

As the four-year Project concluded, Mr. Armstrong Lee, Chairman of Hong Kong Education City's Board of Directors, encouraged students to keep the spirit of the Project, urging them to continue helping others, engage in social services, and contribute to a society filled with love and respect.



Prof. Morris Jong walked the audience through the objectives of the Project



Mr. Eric Luk (far right) delivered a welcome speech to the Thai delegates

## The Centre for Learning Sciences and Technologies Arranges a Lab Tour for Chulalongkorn University Delegation

On 9 April 2024, the Centre for Learning Sciences and Technologies (CLST) had the honour of hosting a distinguished 63-member delegation from Chulalongkorn University, Thailand. This visit was led by Ms. Supaporn Chanchamroen, the Vice President for Human Resource and Organization Development at Chulalongkorn University. The delegation primarily comprised mid-career faculty members, including assistant presidents, vice-presidents, school deans, and other academics who are on a path to transitioning into leadership and management roles within their institution.

The purpose of this visit was to provide the delegation with insights into CUHK's leading-edge efforts in research, technology transfer, and educational innovation. A particular emphasis was placed on CLST application of artificial intelligence and other advanced technologies in teaching and learning.

One of the highlights of the tour was the demonstration of EduVenture-VR®, a pioneering mobile app developed by our team that enables educators to create customized virtual reality (VR) teaching materials. The delegation was introduced to various VR gadgets, including cardboard goggles, VR headsets, and the Meta Quest, all of which are integral to the immersive learning experiences that EduVenture-VR® facilitates.



The Thai delegates split in groups trying out various VR gadgets

Following the demonstration, there was an engaging session where the delegation mingled with CLST team. This provided a valuable opportunity for an exchange of ideas, discussions on best practices, and exploration of potential avenues for collaboration between both institutions. The interaction was a testament to the shared commitment to pushing the boundaries of educational innovation and leveraging technology to enhance the learning experience.

We look forward to the possibilities of future collaborations that this visit has sparked and are excited about the potential joint initiatives that could arise from this productive exchange.

## Selected Recently Funded Projects

Project Title	Period	Amount (HKD)	Fund Source	Principal Investigator
<b>EduVenture Self-directed Learning Resources Programme:</b> General Studies in Primary Education and Citizenship and Social Development in Secondary Education	2023–2026	9,528,000	Quality Education Fund	Prof. Morris Jong
<b>I Believe My Students Can Fly:</b> Educational Design Research on Teachers' Learning Facilitation for Scaffolding Students to Conduct Drone-supported Inquiry-aimed Geo-fieldwork in Natural Environments	2023–2025	633,700	Research Grants Council (GRF)	Prof. Morris Jong
<b>School Learning Support and Teacher Digital Competence from a Needs Satisfaction Perspective</b>	2023–2024	324,000	Research Grants Council (GRF)	Prof. Thomas Chiu
<b>Social Innovation and Entrepreneurship:</b> Starting up "Learniversity"	2023–2025	600,000	University Grants Council (S-KPF)	Prof. Morris Jong
<b>Revolutionising Experiential Learning with Learner-immersed Interactive Virtual Reality in Hong Kong and the Asia Pacific Region</b>	2023–2025	500,000	Faculty of Education, CUHK	Prof. Morris Jong
<b>Incorporating Aviation Knowledge and Communication to Enhance STEAM curriculum</b>	2022–2024	1,551,100	Quality Education Fund	Prof. Thomas Chiu
<b>Provision of Services for Information Technology in Education Professional Development Programmes on Technical Support: Management, Security and Maintenance of School IT Facilities</b>	2023–2024	169,740	Education Bureau	Prof. Morris Jong
<b>Professional Development Programmes for School Teachers:</b> Promoting Blended Learning in Schools	2023–2025	190,900	Education Bureau	Prof. Morris Jong
<b>Provision of Services for Information Technology in Education Professional Development Programmes for School Teachers (2023/2024):</b> Supporting Parents on e-Learning	2023–2024	70,380	Education Bureau	Prof. Morris Jong
<b>Provision of Workshops for English Language Teachers to Enhance their Capacity in Implementing e-Learning in the English Language Curriculum for the 2023/24 School Year</b>	2023–2024	202,400	Education Bureau	Prof. Morris Jong

Project Title	Period	Amount (HKD)	Fund Source	Principal Investigator
<b>Increasing STEM Equity, Access, and Engagement in Amgen Communities Through the Amgen Biotech Experience</b>	2023–2025	USD 307,450	Amgen Foundation	Dr. Victor Lau Prof. Hon-Ming Lam Prof. Morris Jong
<b>EduVenture-VR®: Innovating and Boosting Authentic Experiential Learning with Immersive and Interactive Virtual Reality in Hong Kong and Beyond</b>	2023–2025	500,000	Faculty of Education, CUHK	Prof. Morris Jong

## Selected Recent Publications in Journals

- Jiang, M. Y. C., Jong, M. S. Y., Chai, C. S., Huang, B., Chen, G., Lo, C. K., & Wong, F. K. K. (2024). They believe students can fly: A scoping review on the utilization of drones in educational settings. *Computers & Education*, 220, Article 105113. <https://doi.org/10.1016/j.compedu.2024.105113>
- Lo, C. K., Hew, K. F., & Jong, M. S. Y. (2024). The influence of ChatGPT on student engagement: A systematic review and future research agenda. *Computers & Education*, 219, Article 105100. <https://doi.org/10.1016/j.compedu.2024.105100>
- Huang, B., Jong, M. S. Y., Tsai, C. C., & Shang, J. (2024). Unlocking students' creative potential in designing technological-enriched design solutions. *Journal of Research on Technology in Education*. <https://doi.org/10.1080/15391523.2024.2342915>
- Nalipay, M. J. N., Huang, B., Jong, M. S. Y., Chai, C. S., & King, R. B. (2024). Promoting STEM learning perseverance through recognizing communal goals: Understanding the impact of empathy and citizenship. *International Journal of STEM Education*, 11, Article 17. <https://doi.org/10.1186/s40594-024-00471-w>
- Yue, M., Jong, M. S. Y., & Ng, T. K. (2024). Understanding K–12 teachers' technological pedagogical content knowledge readiness and attitudes toward artificial intelligence education. *Education and Information Technologies*. <https://doi.org/10.1007/s10639-024-12621-2>
- Lau, W. W. F., Jong, M. S. Y., Mesch, G. S., & Song, L. B. (2024). Longitudinal relationships between risky online behaviors and positive technological development among early adolescents: A person-centered approach. *Computers in Human Behavior*, 152, Article 108023. <https://doi.org/10.1016/j.chb.2023.108023>
- Nalipay, M. J. N., Chai, C. S., Jong, M. S. Y., King, R. B., & Mordeno, I. G. (2024). Positive mental health literacy for teachers: Adaptation and construct validation. *Current Psychology*, 43(6), 4888–4898. <https://doi.org/10.1007/s12144-023-04694-y>
- Jiang, M. Y. C., Jong, M. S. Y., & Chai, C. S. (2024). Understanding teachers' multimodal TPACK literacies for supporting VR-based self-directed learning of L1 writing. *Educational Technology & Society*, 27(3), 303–317. [https://doi.org/10.30191/ETS.202407\\_27\(3\).SP07](https://doi.org/10.30191/ETS.202407_27(3).SP07)
- Chen, Y. T., Li, M., Cukurova, M., & Jong, M. S. Y. (2024). Incorporation of peer-feedback into the pedagogical use of spherical video-based virtual reality in writing education. *British Journal of Educational Technology*, 55(2), 519–540. <https://doi.org/10.1111/bjet.13376>
- Shen, B., Wang, Z., Zhong, X., Jiang, M. Y. C., & Jong, M. S. Y. (2024). Can SVVR help with student engagement in an online EFL writing class? A Chinese case study. *The Asia-Pacific Education Researcher*, 33(4), 1011–1021. <https://doi.org/10.1007/s40299-023-00774-6>
- Jong, M. S. Y. (2023). Pedagogical adoption of SVVR in formal education: Design-based research on the development of teacher-facilitated tactics for supporting immersive and interactive virtual inquiry fieldwork-based learning. *Computers & Education*, 207, Article 104921. <https://doi.org/10.1016/j.compedu.2023.104921>
- Chen, M., Chai, C. S., & Jong, M. S. Y. (2023). Actualization of teaching conceptions in lesson design: How teaching conceptions shape TPACK regarding spherical video-based virtual reality-supported writing instruction. *Educational Technology Research & Development*, 71(6), 2321–2344. <https://doi.org/10.1007/s11423-023-10295-0>
- Zou, D., Jong, M. S. Y., Huang, X., Cheng, G., Hwang, G. J., & Jiang, M. Y. C. (2023). A systematic review of SVVR in language education in terms of the ADDIE model. *Interactive Learning Environments*. <https://doi.org/10.1080/10494820.2023.2277747>
- Jong, M. S. Y. (2023). Flipped classroom: Motivational affordances of spherical video-based immersive virtual reality in support of pre-lecture individual learning in pre-service teacher education. *Journal of Computing in Higher Education*, 35(1), 144–165. <https://doi.org/10.1007/s12528-022-09334-1>
- Jiang, M. Y. C., Jong, M. S. Y., Lau, W. F. F., Chai, C. S., & Wu, N. (2023). Exploring the effects of automatic speech recognition technology on oral accuracy and fluency in a flipped classroom. *Journal of Computer Assisted Learning*, 39(1), 125–140. <https://doi.org/10.1111/jcal.12732>
- Wu, W. L., Hsu, Y., Yang, Q. F., Chen, J. J., & Jong, M. S. Y. (2023). Effects of the self-regulated strategy within the context of spherical video-based virtual reality on students' learning performances in an art history class. *Interactive Learning Environments*, 31(4), 2244–2267. <https://doi.org/10.1080/10494820.2021.1878231>
- Jiang, M. Y. C., Jong, M. S. Y., Lau, W. F. F., Chai, C. S., & Wu, N. (2023). Effects of automatic speech recognition technology on EFL learners' willingness to communicate and interactional features. *Educational Technology & Society*, 26(3), 37–52. [https://doi.org/10.30191/ETS.202307\\_26\(3\).0004](https://doi.org/10.30191/ETS.202307_26(3).0004)
- Lin, V., Barrett, N. E., Liu, G. Z., Chen, N. S., & Jong, M. S. Y. (2023). Supporting dyadic learning of English for tourism purposes with scenery-based virtual reality. *Computer Assisted Language Learning*, 36(5–6), 906–942. <https://doi.org/10.1080/09588221.2021.1954663>
- Nalipay, M. J. N., King, R. B., Yeung, S. S. S., Chai, C. S., & Jong, M. S. Y. (2023). Why do I teach? Teachers' instrumental and prosocial motivation predict teaching quality across East and West. *British Journal of Educational Psychology*, 93(2), 453–466. <https://doi.org/10.1111/bjep.12568>
- Chen, X., Zou, D., Cheng, G., Xie, H., & Jong, M. S. Y. (2023). Blockchain in smart education: Contributors, collaborations, applications and research topics. *Education and Information Technologies*, 28(4), 4597–4627. <https://doi.org/10.1007/s10639-022-11399-5>