

## Research Assessment Exercise 2020

### Impact Overview Statement

**University:** City University of Hong Kong

**Unit of Assessment (UoA):** 33 Linguistics and Language Studies

**Total number of eligible staff of the university in the UoA:** 15

**(1)Context:** Research in this UoA comprises two interrelated core areas: general linguistics and linguistic applications. Both core areas are mutually supportive with the aim of contributing to a better understanding of how human language works and how that knowledge can be put to work to meet social needs. Insights from theoretical linguistics help inform the development of linguistic applications while the knowledge obtained from implementing those applications feeds back into our awareness of the socio-cultural dimensions of meaning-making through language.

**(a) General linguistics:** General linguistics researchers in the UoA focus on core areas of linguistics (syntax, phonology, semantics, pragmatics, and psycholinguistics). They describe and explain various linguistic features of well-studied languages (English, Mandarin Chinese, Romance languages, and Germanic languages), under-studied languages (Naxi, Tagalog, and Malagasy), and Chinese dialects (Cantonese, Quanzhou and Min, among others). They seek to understand the extent to which natural language may vary and to enrich the literature with new empirical data.

**(b)Linguistic applications:** Faculty members specializing in corpus/empirical linguistics, computational linguistics, forensic linguistics, pedagogical linguistics, and translation are all engaged in applying research to develop useful language resources for the local community and industry.

**(2)Approach to impact:** The UoA ensures that its research is impactful in the following three ways:

**(a) Serving the community:** We serve the educational needs of local communities by reaching out and making our work available to the public. Bin Li's funded research responds to the HKSAR government's efforts to assess non-Chinese-speaking students' vocabulary learning, and propose effective learning methods and strategies for local students and teachers. Bin Li is also surveying local university graduates' need for English pronunciation training for professional communication. Webster and his team's funded RGC project on teaching and learning provides a web-based multi-modal environment designed to enhance the English and Chinese speaking and writing skills of university students in Hong Kong. As a subproject of this RGC grant, Liu has published a textbook for secondary schools called 'Making Sense of English (for beginners)', which is estimated to have reached over 50,000 users in Taiwan and other Asian areas. Liu has also set up a grammar tutor website called "Ask-me-Why" (<https://grammar.lt.cityu.edu.hk>), which provides an interactive platform for public enquiries about grammar and for the sharing of linguistic answers. Yan, in her UGC funded knowledge transfer project, has collaborated with the Hong Kong Society for the Blind to investigate audio description practices and trainings to meet the needs of the visually impaired in Hong Kong. Chan's UGC funded knowledge transfer project aims to develop a multimedia platform for dyslexic Chinese children in Hong Kong to learn Chinese characters. Through his work on corpus linguistics, Fang analyses big data and makes it available to the general public. Webster's forensic study of courtroom discourse has increased the public's awareness of the role of language in the administration of justice. Bin Li has for ten years hosted the annual Linguistic Wonderland event for high school students to learn how various aspects of language are related to their lives. Our faculty members are actively involved in the Linguistic Society of Hong Kong (LSHK), serving in working groups in language policy and Jyutping (the standard Cantonese Romanization Scheme in HK).

**(b) Practical applications:** Faculty members apply their fundamental research on general linguistics to areas outside of their profession. J. Lee's research integrates natural language processing technology with the development of online resources for self-directed learners of Chinese and English as second or foreign languages. V. Lee's expertise in phonetics informs methods for helping Cantonese speakers with the pronunciation of consonants and the production of stress in English. Lun has turned his research on Cantonese linguistics into a practical test, the Cantonese Read-Aloud Test of LSHK. This pronunciation assessment tool provides level certification for native or non-native Cantonese speakers in education, media and other industries.

**(c) Industry collaboration:** Our research also leads to collaboration with industry partners. Liu has

worked on the corpus-based approach to Mandarin verbal semantics and converted her large-scale and in-depth analyses of Mandarin verbs into a web database, the Mandarin VerbNet (<http://verbnet.lt.cityu.edu.hk>). Her team of computational linguists have paid an onsite visit to Alibaba in Hangzhou exploring potential collaborations. J. Lee, as a computational linguist, has engaged a number of companies in research projects. For example, he has worked with HarperCollins to develop visualization techniques for studying conversations in narratives; with Concept Infinity Ltd in a funded Innovation and Technology Fund project (HK\$1.1 million) to design automatic text simplification algorithms to assist book editors and learners of English; and with Fano Labs to build a Cantonese-Mandarin parallel corpora for training language models in speech recognition systems.

**(3) Strategy and plans:** The UoA's strategic plan for the next assessment cycle is to enhance impact delivery for existing projects and to implement new research initiatives for cross-disciplinary collaborations that benefit the general public. Our plan aligns with CityU's strategic plan to generate research impact within and beyond academia for knowledge transfer and educational/social sustainability.

**(a) Enhancement of impact delivery for existing projects:**

- i. **Promote our established web-based language learning resources to users:** Webster and his team, after the completion of the teaching and learning project for university students in 2020, will conduct workshops for secondary schools. These workshops will increase uptake of the web-based resources created in order to improve secondary school students' speech and writing skills in English and Chinese. Liu will further develop the existing grammar tutor website "Ask-me-why" for extended use in Hong Kong, Taiwan, Mainland China, and other parts of the world.
- ii. **Strengthen assistance for the disadvantaged:** Based on the completed audio description project in 2019, Yan will organise workshops for audio description practitioners, establish training programmes for the general public, and collaborate with the Hong Kong Society for the Blind and industry to promote and improve audio description production.
- iii. **Involve industry in knowledge transfer:** To expand the ongoing project on the Mandarin VerbNet, Liu will explore research collaborations with Alibaba or other interested AI companies to facilitate the use of semantic and discourse mapping systems to improve the performance of existing chatbots.

**(b) New research initiatives in line with CityU's strategic plans:**

- i. **Interdisciplinary and industry collaborations in CityU's strategic research area of "Big Data":** The UoA has just established a research collaboration with the School of Data Science and has secured internal funding for an innovative and pioneering project which aims to develop a text readability assessment system. This system will allow local teachers, students and parents to choose and assess appropriate readers for learning Chinese. To expand this project, the UoA has also partnered with the School of Mathematics at Sun Yat-sen University, and has been sponsored by two local industry partners jointly applying for the Guangdong-Hong Kong Technology Cooperation Funding Scheme offered by the Innovation and Technology Commission.
- ii. **Interdisciplinary collaborations in CityU's strategic research area of "One Health":** In collaboration with the researchers from the Department of Social and Behavioural Sciences and the Hong Kong Institute of Advanced Study of CityU, the UoA has received internal funding to conduct an interdisciplinary project on bilingualism and psychology, with the aims of promoting healthy minds among the elderly. The UoA has also collaborated with the Department of Social and Behavioural Sciences to propose a project for the Health and Medical Research Fund. The project aims to create a chatbot that can enhance young adults' psychological well-being. The proposal has been recommended for support subject to clarifications.

**(4) Relationship to the case studies:** Fang's research has resulted in practical applications in the area of natural language processing, and has demonstrated significant potential in terms of applications in the speech and language industry. Accordingly, he was invited to contribute his expertise as a member representing China within the International Organization for Standardization (ISO). Fang's research is a good example of the UoA's approach to impact. It illustrates that faculty members are empowered to turn their linguistic research into practical applications for educational and industrial purposes in local, regional and global contexts.