

Research Assessment Exercise 2020

Impact Case Study

University: The Education University of Hong Kong

Unit of Assessment (UoA): 24 Psychology

Title of case study: Enhancing early literacy development in Chinese and English

(1) Summary of the impact

Research from the language and literacy development research group at EdUHK focused on early Chinese and English literacy development has enhanced the understanding of kindergarten and primary school teachers of the developmental progression involved in children's literacy. The findings have been translated into classroom practice through school intervention programmes, skills training for teachers, workshops for educators and parents, and the development of new teaching materials. It laid a stronger foundation for fostering children's literacy skills in both Chinese and English in kindergarten and early primary school years.

(2) Underpinning research

Despite the importance given to early biliteracy education in Hong Kong, developmental predictors of literacy learning remain unclear. In the research conducted at EdUHK between 2013 and 2018, Lin and Yeung contributed to a deeper understanding of reading development across languages, specifically Chinese children read non-alphabetic (Chinese) and alphabetic scripts (English), in the unique context of bi-literacy in Hong Kong. Supported by competitive external grants (ECS #845812; QEF-2011/0316), their research generated four key insights into the developmental predictors of Chinese children learning Chinese as the native language and English as a second language (ESL).

1: That **visual spatial skill**, or processing two-dimensional visual representations, is bidirectionally associated with Chinese word reading in the early stage of reading [R1]. Longitudinally tracking 106 children from K1-K3 revealed that visual skills and Chinese reading ability were reciprocally related to each other at the beginning phase of reading development but not at later phases. The findings provided important evidence linking high-level, culturally specific skills with fundamental cognitive skills, demonstrating the uniqueness of learning Chinese.

2: A longitudinal study tracking 88 children for 1.5 years from K2 to K3 [R2] showed that **morphological awareness**, or access to and understanding of the smallest unit of meaning, uniquely predicted the growth rate, or reading potential, of Chinese reading success. As Chinese, unlike English, is rich in compounding morphemes, mastering these meaning-analytical skills is crucial in reading growth.

These two key findings demonstrated a developmental progression in learning Chinese, from the awareness of the basic visual symbols to the deeper understanding of meaning structure in Chinese, and generated insights into the unique strategies used to learn Chinese for practitioners, educators and parents.

3: A longitudinal study tracking 141 kindergartners six times over 15 months [R3] found that the growth of **oral vocabulary** was an important foundational skill of English reading among Chinese ESL learners. Results informed current instructional practice of second-language (L2) learning in pre-primary educational settings where instruction currently is acknowledged to be largely focused on print and letter-sound learning in the early years.

4: **Phonological awareness** is an important foundational skill in English word reading for Chinese L2 learners, much as it is to their L1 counterparts [R4, R5, R6]. Yeung and colleagues demonstrated the immediate and sustained effects of explicit instruction in phonological awareness in English reading among

Chinese kindergarteners [R6]. Learning phonological awareness integrated with day-to-day vocabulary instruction were found to be highly effective for Hong Kong Chinese ESL children [R6]. Their research demonstrated that the integration of these building blocks of literacy in instructional practice benefits early English literacy development of Hong Kong Chinese children.

These findings about children learning Chinese as the native language and English as a second language demonstrated both the uniqueness and commonality in literacy development across languages.

(3) References to the research

- [R1] Lin, D., Sun, H., & Zhang, X. (2016). Bidirectional relationship between visual-spatial skills and Chinese character reading in Chinese kindergartners: A cross-lagged analysis. *Contemporary Educational Psychology*, 46, 94-100. 2018 JCR: Q1 (13/59, Psychology, Educational).
- [R2] Lin, D., Sun, H., & McBride, C. (2018). Morphological awareness predicts the growth rate of Chinese character reading. *Developmental Science*, e12793. 2018 JCR: Q1 (8/74, Psychology, Developmental).
- [R3] Liu, Y., Yeung, S.S., Lin, D., & Wong, R.K.S. (2017). English expressive vocabulary growth and its unique role in predicting English word reading: A longitudinal study involving Hong Kong Chinese ESL children. *Contemporary Educational Psychology*, 49, 195-202. 2018 JCR: Q1 (13/59, Psychology, Educational).
- [R4] Yeung, S.S., Liu, Y., & Lin, D. (2017). Growth of phonemic awareness and spelling in a second language. *International Journal of Bilingual Education and Bilingualism*. <https://doi.org/10.1080/13670050.2017.1409695> 2018 JCR: Q1 (9/184, Linguistics).
- [R5] Yeung, S. S. (2018). Second language learners who are at-risk for reading disabilities: A growth mixture model study. *Research in Developmental Disabilities*, 78, 35-43. 2018 JCR: Q1 (9/41, Education, Special).
- [R6] Yeung, S.S., Siegel, L.S., Chan, C.K.K. (2013). Effects of a phonological awareness program on English reading and spelling among Hong Kong Chinese ESL children. *Reading and Writing*, 26, 681-704. 2018 JCR: Q2 (21/59, Psychology, Educational).

Research funding: Speech-print awareness in Chinese word reading development (6/2013-12/2016) was funded by Research Grants Council Early Career Scheme (HKIEd 845812, HK\$828,438; PI: LIN Dan; Collaborators: SHIU Ling-Po, XIANG Jinjing) [R1, R2]. Effects of a language-rich phonological awareness intervention on English language and literacy among Hong Kong Chinese kindergarteners (2/2013-10/2014) was funded by Quality Education Fund (QEF-2011/0316, HK\$608,200; PI: YEUNG Susanna Siu-sze; Co-Is: NG Mei Lee, and KING Ronnel Bornasal) [R4-R6]. Furthermore, the research were partially supported by the funding from the Faculty of Education and Human Development (HK\$2.15 million (m) since 9/2014) [R1-R2, R4-R6].

(4) Details of the impact

Findings disseminated by Lin and Yeung have contributed to a richer understanding of development in young children in both their first and second languages. Positive impact has made through the engagement with practitioners and parents, direct training on children, and development of new teaching materials.

Specifically, Lin has conducted three dissemination workshops for approximately 100 local educators and parents on enhancing Chinese reading abilities in children [R1-2, S1]. Lin was invited to share the findings in Macau [S2] and mainland China. In Nanjing and Hangzhou of China, Lin provided interactive and focused training on early Chinese and English learning to over 100 participants, including educators, practitioners, parents, and students [S3].

Yeung conducted a series of dissemination workshops for around 300 kindergarten teachers to equip them with the knowledge and skills to design evidence-based English curricula in school settings [S4, S5] based on her research in second language learning in Hong Kong [R3-R6]. Yeung and the team also explained to over 300 parents of young children how they can best support their children to learn English at home [S5]. Aside from local engagements, Yeung was also invited to give a workshop in Macau [S2].

The dissemination workshops and seminars are the pathways for the research-based practice to reach educators and parents. The impact is evident in their feedback. Over 80% of participants in Lin's workshop [R1-2, S1] showed they would apply the knowledge learned to their professional / parental careers and recommend the workshop to others, noting it was a "great sharing of pedagogy" [S1]. A teacher said her teaching of new words is very effective, with repeatedly and explicitly practice in compounding (morphology). The parent ██████ said that she was using the learned techniques in teaching her two school-aged daughters, and found them quite effective [S7].

In Yeung's dissemination workshops, over 85% of participating teachers and parents noted their "inspiring methods" and found them "very practical and useful" [S4]. Interviews with the project participating schools have shown that over 80% of them have revised their English curriculum, demonstrating direct impact in English education [R3-R6]. ██████, a kindergarten teacher, has also incorporated Yeung's vocabulary-focused intervention into her English curriculum in all kindergarten years [S8]. ██████, a kindergarten principal, commented that teachers in her school were using learned knowledge designing the English learning activities [S9].

In a recent dissemination workshop conducted by Yeung in February 2019, over 90% of participating parents reported that they have used and would continue to use the skills learnt in her training to support English learning at home. The school principal observed that children showed enhanced motivation in English learning after their parents applied the skills learnt from the workshops [S4].

Moreover, Yeung led an intervention project on a language-rich phonological approach to learning based on her research findings [R6] involving 20 kindergarten teachers and 250 children in K3 across eight kindergartens [S6], while Lin led a GraphoGame phonological awareness training programme, a game-based intervention, involving 270 5-7 year old children from three districts in Hong Kong. Both programmes directly benefited over 500 children across more than 10 schools, with their impacts shown on early literacy skills and learning motivation.

Additionally, Yeung also developed a teaching resource manual, supported by her Quality Education Fund project [S4]. The manual was adopted in pre-service and in-service kindergarten teacher education as an important reference by the University of Hong Kong's teacher educators [S10], benefiting around 400 pre-service and in-service early childhood education teachers annually. With Yeung's proven track records in the past six years [R3-5], her project gained the funding from the competitive SCOLAR grant (HK1.42 million) which focuses on language education issues. She was also invited to present in a conference organised by SCOLAR and engaged in practice and policy dialogue with government advisory officers and practitioners.

Lin and Yeung's research demonstrated both the uniqueness and commonality of Chinese children learning Chinese as the native language and English as a second language developmentally. Their research-based practice is highly contextualised. Through the engagement of schools, teachers, and parents, they make a positive impact, enhancing children's literacy not only in Hong Kong, but also in other communities.

Working forward, Lin has been developing a teaching resource kit including 3-minute training videos (for children) and manuals (for educators and parents) incorporating morphological awareness and visual-orthographic elements in promoting Chinese reading. Yeung has been developing a game-based programme focusing on phonological processing in promoting English reading for Chinese ESL children.

(5) Sources to corroborate the impact

- [S1] (Workshop) Lin, D. Enhancing Chinese reading abilities in children. Hong Kong. 03-09/2018. The workshop discussed practical strategies on explicitly training morphological and visual-orthographic skills in enhancing Chinese reading through both formally (e.g., school-based teaching) and informally (e.g., shared book reading at home). Funded by the RGC Early Career Scheme (HKIEd 845812) to Lin Dan.
- [S2] (Seminars) Lin, D. Enhancing English Reading Abilities in Chinese young children. Macau. 11/2017; Yeung, S.S. & Ng, M. L. Quality English Learning Experience in Kindergarten: An Enriched Oral Language Program with Phonological Awareness Exposure. Macau. 11/2017. The seminars discussed both empirical research and practices on creating vocabulary rich environment incorporated with phonological awareness techniques in enhancing English reading abilities among Chinese young children.
- [S3] (Seminars) Lin, D. Enhancing reading abilities in Chinese young children. Nanjing, China. 11/2018; The development of English and Chinese reading abilities in Chinese young children. Hangzhou, China. 11/2018. The seminars discussed to make explicit training of research-informed early predictors in enhancing Chinese (morphological and visual-orthographic awareness) and English reading (vocabulary and phonological awareness) in Chinese young children.
- [S4] (Series of dissemination seminars) Yeung, S.S. Vocabulary rich and phonological awareness in English learning for Education Bureau (2 talks), schools (8 talks), and parents (2 talks). Hong Kong. 2013-2016. The seminar series were financially supported by Quality Education Fund (see the research funding listed earlier) and the knowledge transfer fund given to Yeung in 2018 [English language teaching for Chinese ESL kindergarteners: Sharing of evidenced-based practices (2015-2016), \$100,000, funded by EdUHK (PI: Susanna Siu-sze Yeung; co-I: M. L. Ng)]. In these seminars, Yeung has shared research findings presented in R3, R4 and R6 and practical strategies to support English learning in school settings and at home.
- [S5] (Seminar series) Yeung, S.S. Supporting young children to learn English at home: The role of play and story reading. Hong Kong. 03/2018-05/2019. The seminar series were financially supported by the knowledge transfer fund given to Yeung in 2018 [Supporting kindergarteners' learning English at home through a literacy play kit (2018-2019), \$100,000, funded by EdUHK (PI: Susanna Siu-sze Yeung; co-I: M. L. Ng)]. In these seminars, Yeung has presented research findings in R3-6 and strategies to engage children's in literacy play at home.
- [S6] (Teaching Resource Package including manual and CD-Rom) Yeung, S. S., & Ng, M. L. Oral language and phonological awareness for Hong Kong Chinese kindergarteners. Quality Education Fund. Hong Kong. 10/2014. A published teaching resource manual for English teaching in Hong Kong kindergartens that was used in teachers' training and education programme.
- [S7] (Letter) Parent Dr. [REDACTED], Zhejiang University, 11/2018. A teacher Ms [REDACTED], 03/2018.
- [S8] (Testimonial) Ms. [REDACTED], kindergarten teacher. 05/2018. A copy of letter from a kindergarten teacher describing the use of storybooks and associated pedagogy as recommended by Yeung in her teaching.
- [S9] (Letter) Principal [REDACTED], King Shing Kindergarten. 05/2018. A copy of letter from a kindergarten principal describing the continued use of research findings in her school's English curriculum as disseminated by Yeung.
- [S10] (Letter) Dr. [REDACTED], Faculty of Education, University of Hong Kong. 03/2019. A copy of letter from an Associate Professor of Faculty of Education, The University of Hong Kong describing the use of the [S6] in teacher education courses delivered by her.