

THE UNIVERSITY OF HONG KONG

IMPACT CASE HISTORY

Transforming the Learning Experience of Students with Reading and Writing Difficulties and Empowering Teachers and Frontline Professionals

1. Summary

Around 10% of the school population in Hong Kong has specific learning difficulties (SpLD) in reading and writing. To develop evidence-based support for children with SpLD, the Hong Kong Jockey Club Charities Trust funded an 8-year project (2006-2014), the READ & WRITE Network.

Led by Professor Connie Suk-han Ho, the HKU project team was responsible for the development of standardized assessment tools for students from preschool to secondary school levels, and a school-based Tiered Intervention Model with evidence-based curriculum and computerized assessment system for primary school children in Hong Kong.

Many of the assessment instruments developed by this project are the first standardized Chinese screening and assessment instruments for learning difficulties world-wide. They have become the practical standard used by all schools and professional psychologists in Hong Kong. With the evidence of promising progress for students with SpLD, the Education Bureau (EDB) decided to make a long-term commitment of incorporating the outcomes of this project into the various EDB sections.



2. Underpinning Research

Around 10% of the school population in Hong Kong has specific learning difficulties in reading and writing (i.e. dyslexia). Without early diagnosis and effective intervention, reading difficulties put children at risk for academic failure, school anxiety, and drop-out from school, etc. However, in existing local school settings, there is a lack of effective identification tools for screening and assessing children with SpLD and a lack of a comprehensive support model that incorporates regular monitoring practices with quality Chinese language teaching and learning. Effective assessment and support models need to draw upon research knowledge on the cognitive profiles of students with SpLD at different ages and the core components for learning to read Chinese.

Since 2006, Professor Connie Suk-han Ho, Professor in the Department of Psychology, Faculty of Social Sciences, has served as the principal investigator of the READ & WRITE project, developing evidence-based support to children with SpLD in Hong Kong. There are several sub-projects including basic research on the literacy development of children from preschool to senior primary levels, development of assessment tools and learning packages, as well as a school-based support model to help needy children from preschool to adolescent period. In addition, the project develops programmes for teacher training and parent support. Collaborators in this project include HKU, the Chinese University of Hong Kong, EDB, Heep Hong Society for Handicapped Children, and Society of Boys' Centre.

This project has generated important academic and educational publications, including 14 journal papers published or in press, 1 book chapter, 7 standardized screening and assessment tools with local norms, and 10 training-related curricula and packages for Chinese language learning that support children with SpLD.

Major outcomes and the underpinning research of the project include:

Pre-primary School Level

Research on developmental dyslexia has found that as early as the preschool period, children with reading disability have discrepant academic performance in reading and grade level expectation as compared to their peers, and such difficulties would persist into adults. Early identification and early intervention have demonstrated to be essential in reducing the adverse effect of dyslexia. In view of this, Professor Ho and her team have developed a standardized screening tool for kindergarten teachers and professionals in the field to identify preschool children at-risk for reading difficulties, which in turn allows early intervention to take place.

Primary School Level

With the traditional “wait-to-fail” model, students’ difficulties are normally discovered after they have low achievement in learning Chinese for some years and provision of timely and preventive intervention is difficult. In addition, the approach to reading instruction in Hong Kong is mainly through learning a large number of passages or texts, and there is no systematic way to teach basic language skills. Professor Ho’s approach emphasizes that learning basic language skills systematically is important for all children but especially helpful for low achievers and dyslexic children. Based on the “response-to-intervention” approach, Professor Ho and her team have developed a Tiered Intervention Model for Chinese language learning for junior primary school children in Hong Kong. The model includes 3 tiers:

Tier 1: Whole-class quality core reading instruction for all students

Tier 2: Small-group supplemental instruction for low achievers

Tier 3: Individualized intensive instruction for dyslexic readers

The development of the Tiered Intervention Model consists of a Model Development (2006-2009) and a Model Implementation Phase (2009-2011). During the second phase, over 35 local primary schools put the Tiered Intervention Model into practice by integrating the model with the school-based curriculum.

3. References to the Research

Key peer-reviewed publications:

Chan, D.W., **Ho, C. S.-H.**, Chung, K. K.-H., Tsang, S.-M., & Lee, S.-H. (2010). Teachers' Checklist on Reading-Related Behavioral Characteristics of Chinese Primary Students: A Rasch Measurement Model Analysis. *Australian Journal of Learning Difficulties*, 15: 2, 151-170.

Chik, P. P.-M., **Ho, C. S.-H.**, Yeung, P.-S., Wong, H. Y.-K., Chan, D. W., Chung, K. K.-H., & Lo, L.-Y. (2010). Contribution of discourse and morphosyntax skills to reading comprehension in Chinese dyslexic and typically developing children. *Annals of Dyslexia*. DOI 10.1007/s11881-010-0045-6

Chung, K. K.-H., **Ho, C. S.-H.**, Chan, D.W., Tsang, S.-M., & Lee, S.-H. (2010). Cognitive profiles of Chinese adolescents with dyslexia. *Dyslexia*, 16, 2-23.

Chung, K. K.-H., **Ho, C. S.-H.**, Chan, D.W, Tsang, S.-M., & Lee, S.-H. (2010). Cognitive skills and literacy performance of Chinese adolescents with and without dyslexia. *Reading and Writing*. (published online, 10.1007/s11145-010-9227 -1)

Chik, P. P.-M., **Ho, C. S.-H.**, Yeung, P.-S., Chan, D. W., Chung, K. K.-H., Luan, H., Lo, L.-Y., & Lau, W (2011). Syntactic skills in sentence reading among Chinese elementary school children. *Reading and Writing*. DOI: 10.1007/s11145-010-9293-4

Ho, C. S.-H., Wong, H. Y.-K., Yeung, P.-S., Chan, D. W., Chung, K. K.-H., Lo, S.-C., & Luan, H. (2011). The core components of reading instruction in Chinese. *Reading and Writing*. DOI: 10.1007/s11145-011-9303-1

Yeung, P.-S., **Ho, C. S.-H.**, Chik, P. P.-M., Lo, L.-Y., Luan, H., Chan, D.W., & Chung, K. K.-H. (2011). Reading and spelling Chinese among beginning readers: What skills make a difference? *Scientific Study of Reading*. DOI: 10.1080/10888438.2010.482149

Yeung, P.-S., **Ho, C. S.-H.**, Chan, D. W., & Chung, K. K.-H. (2012). Modeling the relationships between cognitive-linguistic skills and writing in Chinese among elementary grades students. *Reading and Writing*. DOI: 10.1007/s11145-012-9411-6

Ching, B. H.-H. , **Ho, C. S.-H.**, Chan, D. W., Chung, K. K.-H., & Lo, L.-Y. (2013). Behavioral characteristics of Chinese adolescents with dyslexia: The use of teachers' behavior checklist in Hong Kong. *Applied Psycholinguistics*. DOI: 10.1017/S0142716413000179

Yeung, P.-S., **Ho, C. S.-H.**, Chan, D. W., Chung, K. K.-H., & Wong, Y.-K. (2013). A model of reading comprehension in Chinese elementary school children. *Learning and Individual Differences*, 25, 55-66. DOI: <http://dx.doi.org/10.1016/j.lindif.2013.03.004>

Selected external grant funding:

1. Longitudinal predictors of literacy problems in Chinese children at family risk of developmental dyslexia (HKU 7212/04H)
 Funding Scheme: General Research Fund (GRF) of Research Grants Council
 Principal Investigator: Professor Connie Suk-han Ho
 Period: 2004-2007
 Amount Awarded: HK\$800,310

2. READ & WRITE: A Jockey Club Learning Support Network
 Principal Investigator: Professor Connie Suk-han Ho
 Period: 2006-2013
 Amount Awarded: HK\$ 48,522,131

3. Specific language impairment (SLI) and dyslexia in Cantonese-Chinese: Co-morbidity and underlying deficits (HKU 753308H)
 Funding Scheme: GRF
 Principal Investigator: Dr Anita M Y Wong (Professor Connie Ho as Co-Investigator)

Period:	2008-2010
Amount Awarded:	HK\$799,810

4. Details of the Impact or Benefit

The achievements of the READ & WRITE project, covering pre-primary, primary and secondary school levels, have brought long-lasting impact on the education system as well as the community.

Development of Standardized Screening and Assessment Tools

Standardized screening and assessment tools have been developed to help identify students at-risk for SpLD more effectively and efficiently. Many of the assessment instruments developed by Professor Ho and her team are the first standardized Chinese screening and assessment instruments for learning difficulties world-wide. Among the screening tools, web-based versions have recently been developed for the Behaviour Checklists for screening primary school and secondary school students with SpLD in Hong Kong. This helps to make the screening tools more accessible and convenient for school teachers. These tools have become the practical standard used by schools and professional psychologists in Hong Kong. The evidence-based practices of identifying at-risk children and intervening of learning difficulties have exemplified how good science can be applied to meet real-world challenges.

Development of a School-based Tiered Intervention Model

With the comprehensive quality curriculum in Chinese language learning as well as the standardized computerized assessment system, the identification and support system for low achievers and dyslexic children has been tremendously improved. In particular, students from over 120 local primary schools at different levels have experienced the intervention curriculum for at least one year. About 25% of poor or dyslexic readers in the remedial groups, who originally fell below the territory-wide benchmark, reached the benchmark of Chinese literacy after receiving one to two years of intervention. This effect size is remarkable in intervention research for developmental disabilities. In view of the positive outcomes achieved by the project, EDB decided to make a long-term commitment of incorporating the model into more local primary schools. Consequently, the Tiered Intervention Model is expected to be implemented in over 200 primary schools in Hong Kong from 2011 to 2016 with the hope of making it a routine practice for language learning for all local schools in the long run.

Professional Support and Training for Teachers and Frontline Professionals

Apart from developing and publishing identification and intervention tools, many

teachers, psychologists, social workers, and parents have been empowered throughout this project. Over 200 local kindergartens, primary schools and secondary schools, around 20 NGOs and 10 Government sections have effectively been engaged in the implementation of the programmes and curricula developed by the various sub-projects.

Numerous workshops, preparation meetings, class observations and consultation meetings were held to ensure full understanding and appropriate practice of the partners.

In addition, school principals and teachers were trained on effective teaching of children with SpLD in Chinese. There is positive impact on teachers' awareness and attitude towards students with dyslexia. Educational psychologists, School Development Officers, and many other officers of EDB have been trained to become effective support personnel in schools.

Public Awareness on Helping Students with Difficulties in Chinese Reading and Writing

Over 40 seminars were held; 11 TV programmes and a large number of newspaper reports have been produced to introduce the effective approaches of helping children with reading difficulties to the public.

The impact of this state-of-the-art research is likely to go beyond Hong Kong. For instance, a group of teachers and researchers from Taiwan have come to the project centre to learn about the approach of teaching SpLD children to read Chinese. While there are considerable resources for diagnosing and supporting children with dyslexia in countries using alphabetic languages, the READ and WRITE project offers unique evidence-based effective resources for children with learning difficulties in Chinese. The resources are likely to contribute to educational practices in Chinese language education worldwide.

5. References to the Corroboration of Impact or Benefit

- **Video clips of interviews of different partners and stakeholders of the Tiered Intervention Model sub-project**, including school headmasters, teachers, an educational psychologist, EDB colleagues, parents, and students, are available for corroboration purpose.
- Professor Connie Ho has given **numerous public seminars** on the project since 2007.
- **Media Coverage:**

The various outcomes of the project have been extensively covered by local newspapers since 2006. Professor Ho and her team were interviewed in 11 TV programmes on the project.

- **Dedicated Websites:**

- Number of visitors to the READ & WRITE project website:
<http://www.psychology.hku.hk/rwjclsn/index.html>
- Number of visitors to the website of the Hong Kong Specific Learning Difficulties Research Team and registered users of the assessment tools:
<http://www.psychology.hku.hk/hksld/index.html>