Research Question
How to differentiate SLI, ESL, & GDD/GDD?
• Develop a linguistically, culturally and age appropriate language tests in both the 1st and 2nd language of child with separate norms.
• Screen in two languages and use a visual profiling to show an overview of child’s abilities.
• Validate the profile using assessments by Speech-Language Pathologists (SLPs).

Methods
Participants for norming
PCF kindergarten children
Simultaneous bilinguals learning both languages from age of 3 L1 language most frequently used at home (based on Teacher’s and Parents’ report)
No difference for age & nonverbal intelligence
Assessed once a year. Time 1: Nursery (M=4.2)
Time 2: K1 (M=5.1)
Time 3: K2 (M=6.2)
Participants for screening
Children attending THK Therapy Services & The Children’s Therapy Centre.

Materials
Raven’s (36 items): Matrices for nonverbal abilities (CPM, Raven, Court & Raven, 1995)
Goodenough-Harris Drawing Test: Draw a person test as measure of cognitive maturity (GEHT, Harris & Goodenough, 1963)
Digit recall (forward/backward) (21 items): Following format and instructions for WISC-IV (tested in both English and Mandarin, on separate days) (Wechsler, 2003)
Receptive vocabulary (60-80 items): (Sae & Rickard, 2009)
Locally developed parallel from BLAB test (English and Mandarin, tested on separate days)

Discussion and Future Directions
Clinical utility: CLAP results able to reflect different profiles of ESL, SLI and GDD children; provides comprehensive information but administration time long (2 hours), Norms now available for PCF kindergarten children with different types of local bilingual backgrounds.
Future directions
• Reduce number of items per task (c. 30 for vocabulary) for the screener and reduce testing time to one hour;
• CLAP results able to reflect heterogeneity amongst bilinguals in terms of proficiency/exposure

References
Wilkinson & Robertson, 2006)

[Graphs and tables showing sample of items administered in Expressive vocabulary test for noun and verb, Expressive vocabulary (N=140 items): Locally-developed picture naming test (tested in both English and Mandarin/Malay, on separate days) (Chua, Rickard Low & Yeong, 2014)]

CLAP (4 case scenarios)

Profile A indicated by CLAP: Typical Development
Malay dominant, K2, with no previous diagnosis/concerns from parents & teachers

Profile B indicated by CLAP: English as a Second Language Learner (ESL)
Mandarin dominant, K2; Follow up test results: ERB (2%-4%); MRGT (75-90%)

Profile C indicated by CLAP: Specific Language Impairment (SLI)
English dominant, Nursery: Other test results: ERB (6-7%); MRGT (15%)

Profile D indicated by CLAP: Global Developmental Delay (GDD)
Mandarin dominant, K1; Other test results: ERB (1%); MRGT (5%-10%)

Abstract
Researchers have identified the main factors that affect language and literacy development in unilingual English-speaking children and bilingual children who speak English plus another European language. To date, it remains unclear whether their results generalize to bilingual children concurrently learning to speak, read, and write languages with more contrasting features, such as those found in Mandarin and Malay. Almost all of the published tests available for assessing cognition, language or literacy were developed overseas for use with relatively homogeneous groups of unilingual English-speaking children or bilingual children with two European languages. For this reason, most of the available assessment tools have limited clinical utility for local bilingual children. Moreover, reliable identification of language and literacy difficulties in young bilinguals depends on test results in both languages. One aim of our 3-year longitudinal study of bilingual pre-schoolers in Singapore (from Nursery to K2 for English L1, Mandarin L1 and Malay L1 children) was to develop the Cognitive Linguistic Assessment Profile (CLAP), a battery of 12 normed subtests which includes measures of vocabulary achievement in two languages, memory abilities, phonological awareness and early literacy skills. This paper describes how CLAP is now being used in Singapore to screen for specific types of problems in bilingual children.