ABSTRACT

While studies in English-speaking children showed that speech perception is highly correlated with reading achievement of children, little is know about the neuro-cognitive processing of skilled and less skilled Chinese reader. Given that English is an alphabetic language while Chinese is a logographic language, it is anticipated that these two languages depend on different phonological information on reading. It is then speculated that, in Chinese children the discrepancy of the brain activation patterns between skilled and less skilled readers in speech processing may be distinct from that appeared in English. To study the neuro-cognitive processing on Chinese and the input of reading level on the process, twenty six 6-year old children with Chinese as the first language will be recruited for the study. These children are further assessed by a reading test to distinguish their Chinese ability. Those scored one standard deviation below the mean score were classified as poor readers. Others were regarded as normal readers. During the experiment, 12 pairs of Chinese characters evenly distributed in three stimuli blocks are presented to the children acoustically and they have to judge whether each pair of character is same in rhyme or not. Throughout the whole process the children's brain profiles are assessed by fMRI scanning machine equipped with 1.5 T MRI system. The BOLD (blood oxygen level dependent) contrast method is adapted for acquiring images. Results will be focus on the possible discrepancies between skilled and less-skilled children on phonological sensitivity.