Predictors and stages of very young child EFL learners' English development in China
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Very young FL learners, who are still in their early childhood, have not received much attention until recently, with the rising popularity of early FL education programs across the world. China probably witnesses the largest number of very young EFL learners, and in Chinese private English language institutes alone there are more than 210 million children taking English courses (Li, 2013). Despite the huge population, we have little knowledge on these very young learners in China (Zhou & McBride-Chang, 2011). Therefore, an urgent task for Chinese educators is to become better acquainted with this population and learn about the factors that impact the children’s learning results. This is the general aim of the current dissertation.

To achieve this goal, insights have been introduced from studies on child ESL learners in naturalistic settings, because these learners share a similar cognitive status with participants in the current dissertation. The crucial difference between these two groups is their L2 learning environments: child ESL learners have much more English input and usage than their counterparts in instructional settings (Muñoz, 2008). The discrepancy between the environments might ultimately result in different L2 outcomes and developmental routes, both of which have been considered in this study.

Individual differences in EFL development have been explored at both the group and individual levels. Two group studies were conducted to detect the best cognitive and environmental predictors for very young EFL learners’ language outcome; and two case studies were conducted to examine the variations of learning behaviors in class at inter-individual and intra-individual levels. The descriptions below are brief summaries of each chapter.

Chapter 1 covers the background on very young FL education worldwide and in China particularly. Usage-based Theory and Dynamic System Theory, two theories that influence the current thesis, are briefly introduced. The research questions and their relevant analytical approaches are described. The first chapter concludes with an overview of the dissertation.

In Chapter 2 we describe a cross-sectional study on the impact of internal and external factors on very young EFL learners in an instructional setting. 71 very young child English learners in China participated in the study. Their onset age of learning English was between 2.0 to 5.6 years
(mean = 3.9 years) and their exposure to English ranged from 8–42 months (mean = 19.5 months). Their receptive vocabulary, productive vocabulary, and receptive grammar were taken as outcome variables; and seven factors (age of onset, short-term memory, nonverbal intelligence, English input quantity and quality, English use, and maternal English level) were taken as predictive variables.

Results generated from multiple regressions and verified by Bayes factor comparisons revealed that the total amount of school input and home English media environment were significant predictors for all of the three aspects of English proficiency, with each aspect having different additional significant predictors. The predictive power of the models was examined by cross validation.

Both internal factors (e.g., age of onset) and external factors (e.g., English input quantity) played an important role, but in contrast to similar studies (e.g., Paradis, 2011) focusing on L2 naturalistic settings, external factors explained more variance of English proficiency measures in the current instructional setting. External factors are assumed to be more context-sensitive and different populations might vary from each other more strongly considering these factors. The results imply that these factors should be better manipulated in instructional settings. Further research on these factors is discussed.

**Chapter 3** describes a longitudinal study on the predictability of children’s internal and external factors on their English vocabulary development. Both vocabulary width and depth are examined. The English vocabulary development of 43 very young child EFL learners (age 3.2–6.2 years) in China was followed for seven months. The children were tested twice for English receptive, productive, paradigmatic and syntagmatic vocabulary knowledge. The development of their English vocabulary knowledge was predicted using a series of internal factors (e.g., phonological short-term memory) and external factors (e.g., English input quantity).

All four aspects of vocabulary knowledge increased significantly over the seven months. An exploratory mixed-effects regression analysis revealed that English use, interacting with age of English onset, significantly predicted growth. Older children benefitted more from practicing English to enhance their English vocabulary. The amount of English input at school was found to positively impact the development of English syntagmatic knowledge. Chinese paradigmatic knowledge significantly influenced the growth of English paradigmatic and syntagmatic knowledge.

These findings indicate 1) at least at an early stage, external factors play an important role in child FL vocabulary development for children with advanced cognitive maturation in particular; and
2) the transfer of concepts from L1 to L2 might be more significant for L2 vocabulary depth than for L2 vocabulary width, and this conceptual transfer is relevant to FL learners as young as three years-old.

Chapter 4 describes a multiple case study on very young EFL learners’ learning behaviors in class. It tests Clarke’s (1999) findings on the phases and variations of the English development of young second language learners in a Chinese EFL setting and explores the cause of these variations considering the questions: 1) What verbal and nonverbal behavior can be observed in Chinese preschoolers in an English-learning classroom? 2) What variation can be observed among the children in such a class? 3) To what extent can the observed variation be interpreted on the basis of the children’s temperament? Four three-year-old English learners in China were videoed and audio-recorded in class for five months. Their class data were transcribed with CLAN and analyzed with SPSS. Information on their temperament was provided by the parents by filling in the NYLS questionnaire and analyzed with the software MentalList 2.

It was found that during the initial five months, the four Chinese preschoolers’ English learning behavior developed from nonverbal reactions, such as nonverbal repetitions, to verbal reactions, such as English responses, generally aligned with the first two phases outlined by Clarke (1999). Children varied significantly in terms of time of entry into the verbal phase, in the extent of interaction with teachers and peers, and in learning style. Temperamental traits, such as adaptability and mood, were found to be related to differences in development. A higher level of adaptation, a higher level of activity, more initial reactions and a positive mood were found to be related with more verbal and nonverbal repetitions and responses. A lower level of activity and less initial reactions were shown to be related to a smaller amount of verbal and nonverbal production. Finally, a negative mood and a higher threshold of responsiveness seem to have led to the teacher misreading a child’s needs and thus hampered that child’s motivation and incidental learning.

The originality of this study is the introduction of temperament into a child’s foreign language development and its use to capture differences in the child’s learning behaviors. Data on temperamental characteristics might enable teachers to become familiar with the young learners quicker and better, thus supporting their teaching and facilitating their teaching handover.

Chapter 5 describes an intrapersonal study focusing on a three-year-old EFL learner’s behavioral development in class. The coordination and developmental pattern of different FL learning behaviors is explored. One child was video-recorded in class for half a year, and his
learning behaviors were coded using MediaCoder and analyzed with (Cross) Recurrence Quantification Analysis and Monte Carlo under the guidance of Dynamic System Theory.

A significant coordination relationship has been found between the child’s verbal and nonverbal behaviors, indicating a close relationship between body language and verbal production during his early EFL learning in class. As Goldin-Meadow (2014) argued, body language might greatly facilitate meaning delivery when children are restricted in their language competence. This argument might also underlie the finding on early EFL development obtained in this study. The coordination between verbal and nonverbal behaviors was also found to become less rigid over time, suggesting the child’s better adaptation to the learning environment and a better command of English. Focusing on the child’s verbal behaviors, both repetition and non-repetition demonstrated specific developmental patterns, and those regarding non-repetition were more predictable.

The results imply the differential influence of internal and external factors on different learning behaviors. Learning behaviors driven by internal factors (e.g., children’s English responses dependent on their language competence) appear to be more stable than those determined by external factors (e.g., children’s repetitions based on teachers’ utterances). However, it is worth noting that the current results require verification based on a larger sample size.

The dissertation concludes with Chapter 6, in which the results of the four studies are discussed and an attempt is made to answer the two general research questions raised in the introductory chapter. The limitations of the studies, along with the implications for early EFL programs are discussed, and recommendations are provided for future research that covers the concerns of efficiency, equality and educational continuity of early FL education.

This dissertation has served to extend our understanding of very young EFL learners in China. The results reveal that external factors (or environmental factors) play a crucial role in early EFL development. English input and usage should be ample; otherwise, the benefits of early FL programs might be limited. This is in line with the argument of Usage-based Theory that language is constructed during usage events (Ellis & Cadierno, 2009). Input quantity and quality determines the frequency and prototypicality of the target forms and, therefore, plays a crucial role in early language development, particularly in FL learning (Smiskova-Gustafsson, 2013). More studies on teacher qualification and English materials used at home are needed because they are two main sources of English input for very young EFL learners in the current study, and this might be the case in other early FL contexts as well.
The case studies demonstrate the rich variations in terms of early English learning behaviors in class at interpersonal and intrapersonal levels. These findings contradict the widespread misconception in the ELL field that young children are alike and there is no need to investigate their differences. Dynamic System Theory proves to be a powerful guidance for exploring the fluctuating and complex developmental patterns of children’s early FL acquisition. Better knowledge on children’s differences, such as their temperamental traits, could enable teachers to provide fine-tuned scaffolding to individuals in time. Very young EFL learners attract increasingly more attention, and future research should pay special attention to the efficiency, equality and educational-continuity of ELL programs. A good control of these three factors might enable very young FL learners to benefit more from such educational experience.