CHAPTER 1: INTRODUCTION

Literacy involves reading and writing as ways of making, interpreting, and communicating meaning wherein reading is defined as the ability to obtain meaning from print (Heath, 1980) and writing is the ability to use print to communicate with others either immediately or later unlike spoken language. Reading and writing are more than simply decoding and encoding print: they are ways of constructing and conveying meaning with written language. Becoming literate, is a multifaceted phenomenon that involves more than learning a set of technical skills such as, learning the alphabet, learning how to form letters and spell words, and learning how to decode print that are typically taught in elementary school. Becoming literate also includes mastering specific skills related to written language as well as a complex set of understandings, attitudes, expectations and behaviors (Erickson, 1984).

Development of literacy abilities especially academic reading and writing is one of the most complex and important aspects of academic language development in children. This phenomenon may be even more complex in children acquiring biliteracy when there is a need to acquire literacy in languages that follow different structure and writing systems that are so prevalent in the Indian context leading to a more enigmatic picture.

In the recent years, the term ‘biliteracy’ has gained importance in the fields of bilingual education, bilingual literacy and English as a second language (Francis, 1999). Biliteracy refers to the use of two or more languages in education i.e., as an instructional medium and as a curricular subject (Devaki, 1990). Biliteracy is defined as the mastery of fundamentals of speaking, reading and writing (knowing sound/symbol connections, conventions of print, accessing and conveying meaning
through oral or print mode, etc.) in two linguistic systems (Reyes, 2001). The term biliteracy is used to describe children’s competencies in two written languages, developed at varying degrees, either simultaneously or successively (Dworin, 2003).

Development of literacy skills depends on certain types of language skills. In preschoolers, language skills most apt to develop literacy are those related to print and oral skills that support emergent literacy (namely, letter‐sound correspondence, rhyming, using language to talk about language, and contact with print). In order to understand the different processes of literacy development, a clearer understanding of models of literacy development is essential. Durgunoglu and Öney (2000) proposed a model which they derived from all the other available models of reading and writing models (Adams, 1990; Gough & Tunmer, 1986; Juel, Griffith, & Gough, 1986; Lomax & McGee, 1987; Tunmer, Herriman & Nesdale, 1988; Tunmer & Nesdale, 1985). Figure 1.1 shows a model of literacy development proposed by Durgunoglu and Öney (1999).

![Figure 1.1: A Model for Literacy Development](Source: Durgunoglu and Öney, 1999)

In the above model, Durgunoglu and Öney (1999) discussed three major components of the model as facilitators, building blocks and outcomes to literacy
development. The model also emphasizes the role of basic cognitive abilities, home environment and schooling as factors contributing to literacy development. Phonological awareness (refers to a child’s awareness of phonological units such as words, syllables, onset-rimes and phonemes), functional awareness (refers to child’s developing notions about the functions and conventions of written language) and syntactic awareness (refers to the child’s ability to reflect upon the internal grammatical structure of the sentences) are termed as facilitators of decoding and listening comprehension skills. Clay (1979) stated that through the interaction of these facilitators with written language, children develop the concepts about print. Listening comprehension and decoding were considered the building blocks of literacy acquisition. Listening comprehension depends on understanding the semantic and syntactic aspects of spoken language (Durgunoglu & Öney, 2000). Unlike, listening comprehension, reading comprehension depends on information that is extracted from print using orthographic decoding skills.

Listening comprehension and decoding, respectively, were found to be the two tasks reflecting the operation of reading and writing, even in different cultural contexts (Gough & Tunmer, 1986). To read and write fluently, a child needs to understand the spoken language and understand how this spoken language is represented in written form (Juel, Griffith, & Gough, 1986; Perfetti, 1985). The contexts like home environment, schooling and cognitive abilities of the child also play a role in the interaction factors affecting literacy development (Chaney, 1992, 1994, 1998; Dickinson & Snow, 1987; Hart & Risley, 1995; Heath, 1983; Teale, 1986). Through their experiences with both oral and written language, children become familiar with the characteristics of their language and develop an
understanding of the functions of literacy (Cunnigham & Stanovich, 1998; Maclean, Bryant, & Bradley, 1987).

Apart from the above skills, yet another skill found to be a strong predictor to literacy acquisition is rapid naming. Rapid automatized naming (RAN) refers to the ability to rapidly name colors, numbers, letters, or objects as quickly as possible. Rapid naming ability has been linked with phonological processing ability—namely, the ability to retrieve phonological codes from long-term memory (Wagner & Torgesen, 1987). Poor rapid naming ability is also identified as a crucial factor to predict reading failures (Hynd & Cohen, 1983; Lombardino, Riccio, Hynd, & Pinheiro, 1997). The term RAN is viewed by investigators as either rapid verbal naming, verbal fluency for letter, phonological, and/or semantic units. The most common verbal fluency tasks used in research are letter fluency, phonological fluency and semantic fluency. While, studies report naming speed differences in different languages with different script structures (Patel, Snowling & de Jong, 2004), Cohen, Morgan, Vaughn, Riccio and Hall (1999) had earlier reported that rapid verbal naming improves significantly between 6 and 12 years of age, thus indicating a developmental trend in verbal fluency.

Literacy acquisition in children is reported to follow a sequence of three stages: logographic, alphabetic and orthographic phases of development. Frith (1985) proposed that children go though the logographic stage of reading while acquiring literacy in English language, while others (Karanth & Prakash, 1996; Wimmer & Goswami, 1994) believed that phonologically transparent orthographies such as German, Spanish or Hindi do not depend on logographic reading. Orthographic sensitivity is a crucial factor in reading and the nature of orthography, its transparency and form of representation is also found to influence the pattern of

Researchers who studied literacy in Indian languages opine that transparent orthography may demand different strategies for Indian languages as the basic unit in most of the Indian languages is a syllable and not a phoneme (Anurag, Kar & Srinivasan, personal communication; Karanth, 1998; Prakash & Rekha, 1992;). Phonological awareness is found to be crucial for reading alphabetic scripts. However, it is not considered to be crucial to reading acquisition in transparent writing systems like Hindi or Kannada (Karanth, 1998). On the other hand, akshara (refers to a basic written unit in Indian script which is a combination of vowel and consonant) awareness is considered a good criterion for identification of good and poor readers in the Indian children (Padakannaya & Mohanty, 2004). Therefore, the model and/or stages proposed for acquisition of literacy in alphabetic languages may not hold true for non-alphabetic languages such as those in India.

Apart from the above skills, another important factor that is discussed in literature relevant to biliteracy in children is processing mechanisms in different orthographies. There are studies in the recent decade that report on the influence of nature of orthography, its transparency and form of representation on the pattern of reading development in biliterate children (Durgunoglu & Öney, 2000; Veii, 2006; Veii & Everatt, 2005; Ziegler & Goswami, 2005). Many hypotheses and assumptions are put forth by researchers on reading and its relation to the processing of different writing systems existing in the world. Geva and colleagues (Gholamain & Geva, 1999; Geva & Siegel, 2000) proposed that the main theoretical positions to understand processing mechanisms in bilingual literacy, can be reduced to two competing perspectives as the script dependent hypothesis (Snowling, 2000) and
central processing hypothesis (Geva, Wade-Wooley & Shany, 1997; Geva & Wang, 2001). The script dependent hypothesis posits that reading acquisition varies across languages. Under this general viewpoint are those theories that propose that reading development should vary with the depth of transparency of a particular orthography (Bialystok, 2002; Prema, 1998; 2000; Shanbal & Prema, 2007b; Wang, Koda & Perfetti, 2003; Veii and Everatt, 2005). Researchers also found similar differences in biliterate children with reading difficulty, who showed deficits in one language and not in the other (Everatt, Smythe, Ocampo & Gyarmathy, 2004; Everatt, Smythe, Ocampo & Veii, 2002; Smythe, Everatt, Gyarmathy, Ho & Groerger, 2003; Karanth, 1992; Miller-Guron & Lundberg, 2000; Wydell & Butterworth, 1999).

The central processing hypothesis, on the other hand, assumes a universal approach to literacy acquisition. It proposes that reading development is not contingent upon the type and the nature of the orthography. Rather, common underlying linguistic and cognitive processes such as working memory, verbal ability, naming and phonological skills influence the development of reading across all languages. Geva (2000) and Gholamain and Geva (1999) found basic reading skills in one language correlated positively and significantly with their reading skills in another language. Such evidence for differential development and commonality of predictors led Geva and Siegel (2000) to conclude that the central processing and script dependant viewpoints are complementary to each other rather than being contradictory. Script dependent and central processing hypothesis explain either script specificity or universality to literacy in children who are biliterate. Though, there is no general consensus on this issue, it may be understood that a few skills of literacy are script dependent and a few others may be universal across languages. Understanding these processing mechanisms in Indian context would be more
interesting as children who are biliterate learn literacy mainly in two different contexts of writing systems like Kannada (the semi-syllabic or transparent system) and English (the alphabetic or the opaque system).

A review of existing research on literacy and biliteracy suggests that the components necessary and that may be crucial for acquisition of biliteracy may be different depending on the nature of scripts. Yet, they may grouped under 1) Listening skills, 2) Phonological awareness skills, 3) Rapid verbal naming skills, 4) Reading skills and 5) Written language skills for the convenience of investigation of biliteracy acquisition.

**Biliteracy in the Indian context**

English as a prestige language and the language of first choice continues to serve as the medium of instruction in elite schools (Sixth All India Education Survey, 1999). All large cities and many smaller cities have private, English-language middle schools and high schools. Such an educational policy schools in India is inevitable due to the globalization and other related factors. An Indian child’s first language is generally one of the Indian languages and the second language could be English learnt in a formal context of school unless the child is exposed to other languages at home or in the neighborhood or any other Indian language that is acquired once the child starts school at four years of age. Further imposition of a Trilingual Educational Policy has forced children to learn languages with different script structures. While the script of Indian languages follow the alphasyllabary system, that of English is alphabetic in nature. Therefore, the scripts are distinct in nature since the basic unit of the script of Indian language is the syllable and not phoneme unlike that of an alphabetic script (Padakannaya & Mohanty, 2004). Given the distinct nature of the two scripts that the Indian children
need to acquire early in their school years, it would be interesting to study how the differences in orthography between an Indian language like Kannada (with semi-syllabic script) and English (with alphabetic script) influence acquisition of biliteracy in children learning to read and write both the languages.

In the recent years, acquisition of literacy in Indian children has received much attention by researchers and educationists. But, a realistic estimate of the prevalence of literacy failures in school children is yet to be made. Majority of literacy failures in school children may be due to factors such as language and cultural factors (Prema, Shanbal & Khurana, 2010) but need not necessarily be the disability in the real sense. Of late, the number of children with literacy failures who avail consultation from Speech-Language Pathologists is increasing possibly due to the most prevalent language and cultural diversity in India. Among those who report, not everybody manifests typical literacy failures with disability. There are many children who are behind/slow in reading and writing due to factors not directly related to literacy. Majority of these children are from monolingual community, a few others from bi/multilingual community learning to become biliterate. Hence, there is a need to understand acquisition of biliteracy in children particularly in order to tease out the various factors that influence acquisition of biliteracy. This would further help in understanding the specific factors that lead to literacy failures or to reading or learning disability in biliterate children.
Research questions and aims of the study

1. Is there a developmental pattern of acquisition of literacy skills in biliterate children from Grade V to Grade VII?
   - The primary objective was to study the developmental pattern of acquisition of literacy skills in biliterate children from Grade V to Grade VII.

2. Is there a need to develop an assessment battery for Biliterate Children?
   - In order to achieve the primary objective of the study, the secondary objective of the study taken up was to develop a tool to assess biliterate children (ABC).

3. Do the existing models of literacy acquisition hold good for biliterate children?
   - The data obtained on ABC tool would be examined for patterns of responses in order to compare with the existing models of literacy acquisition. Hence, the tertiary objective of the study was to derive a model of literacy acquisition in biliterate children, which will contribute to the existing models for biliteracy development.

4. If a differential pattern of literacy acquisition exists in biliterate children, what is its relevance to biliterate children with learning disability (CLD)?
   - An extended objective of the study was to examine a small group of clinical population (children with learning disability-CLD) in order to check for the relevance of ABC tool for clinical purposes.