Written productivity in fourth grade Kannada-English children with Learning Disability

by Unknown Author

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Abstract

Most of the studies in biliterate children with Learning disability have mainly concentrated on reading, whereas little attention has been given to studying correlates for written language development. Thus the objectives of the present study were to investigate and compare written productivity in Kannada-English biliterate children with Learning Disability in each of their two languages. The participants of the study included fifteen emerging biliterate children with Learning Disability in the fourth grade and thirty age and language matched typically developing children. The children were asked to produce a written narrative for a pictorial prompt in Kannada and English. The written compositions of children were analyzed for three measures of productivity using the SALT software. Between language comparisons in children with Learning disability ($p < 0.01$) and typically developing children ($p<0.01$) showed that total number of words were greater in English in both the groups. Typically developing children performed significantly better than children with Learning disability ($p < 0.05$) on all the measures of written productivity in Kannada. The study emphasizes the importance of assessing two languages in biliterate children. The results of the study also highlight the influence of proficiency/use of language and the amount of exposure to a particular language on the written productivity of children.

Keywords: Written productivity, Learning Disability, biliteracy, written language.

Background

Writing is a form of communication which is complicated in nature requiring a myriad of processing abilities. Appropriate development of written language is crucial in a child's life since children are often assessed based on their written performances in school (Hooper, 2002). It has been well established that oral language development plays a very important role in the development of written language (Perfetti & Dunlap, 2008). Research has also shown that writing is also an orthographic skill (Abbott & Berninger ,1993).Thus it can be inferred that writing is not purely a motor skill, as it is often presumed to be, but it is also a linguistic skill relying heavily upon the linguistic competence of the writer. Therefore, evaluation and management of written language disorders comes under the purview of Speech Language Pathologists since they are trained and have knowledge about development and disorders of language (Puranik, Lombardino & Altmann, 2008).

Written productivity refers to that characteristic of written language that describes the length of writing produced according to the task and context. Typically, the measures used to assess written productivity include the total number of words, ideas or sentences and the number of different words produced (e.g., Abbott & Berninger, 1993; Kim, Al Otaiba, Puranik, Sidler, Gruelich & Wagner , 2011; Puranik, Lombardino and Altmann , 2008; Wagner, Puranik, Foorman, Foster, Tschinkel, & Kantor, 2011). But it has to be clarified that though lengthy writing is not the definitive goal of writing or writing instruction/remediation, a certain amount of length in writing is necessary to explain one's ideas clearly and thoroughly. Research has also shown that some of the measures of written productivity such as the Total number of words are a

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very good indicator of development (McMaster & Espin, 2007; Nelson & Van Meter, 2007; Wagner et al., 2011).

Several models of written language have been suggested, the most influential among them being Hayes and Flower's model (1980). According to this model, composing a written text involves the steps which include generating ideas (planning), systematically arranging these ideas (organizing), encoding the ideas in terms of words, phrases, clauses, sentences etc to convey meaning (generation), and finally to review and modify the encoded ideas to conform to the conventions of written language (revision). This model is still very relevant in understanding the development of composition skills in children. According to Berninger (2000), for composition skills to develop, the development of lower level transcription skills to the point of automaticity is very crucial so that cognitive resources are free for the higher level processes such as planning, generating and revising. Planning and revising stages in younger elementary grade children, i.e., those studying in the first to fourth grades are bound by their limited transcription skills (Berninger, 2000). Development of composition skills is highly dependent on the growth of processing abilities, working memory, storage capacity in addition to the development of meta-linguistic and meta-cognitive abilities in children (Kellogg, 2008). According to Almargot and Fayol (2009), children begin to learn written production at 5-6 years of age and acquire basic composition skills begin by approximately 10 years of age.

Children with Learning Disability (LD) may face problems in one or more of these stages of writing. In the present study, the term Learning Disability (LD) is operationally defined to a condition in developing children who have difficulties in both reading and writing. The term

Learning Disability refers to problems in reading, writing, spelling and mathematics (American Psychiatric Association, 2000; Sarkees-Wircenski & Scott, 2003). According to DSM-V, Specific Learning Disability is a disorder neuro-developmental in origin, which hampers the development as well as use of certain academic skills such as reading, writing , arithmetic etc which form the basis for academic learning.

Though LD is usually thought of as primarily a reading disorder, on assessment it was found that both children and adults with learning disabilities manifested equal difficulties in both reading and writing (Berninger, Abbott, Thomson & Raskind, 2001). But the writing difficulties in these children are often not identified and therefore not treated. Presently, there are very few standardized tests, protocols or universally accepted standards for identifying children with written language difficulties (Lyon, 1996; Katusic, Colligan, Weaver & Barbaresi, 2009). As far as research is concerned, research on disorders of written language has often taken a backseat compared to research on reading difficulties (Katusic , Colligan , Barbaresi , Schaid & Jacobsen, 2001) . Heath , Toste and Roberts (2007) analyzed the amount of research conducted during a ten year period in the core area of Learning Disability in well-known LD journals and found that published research on reading disabilities were around 20 % compared to research on written language disorders which was less than 1%. Research on written language difficulties in children with Learning disabilities is evolving only since the past two decades (Hooper, 2002). The particulars of written language disorders have not been researched thoroughly and such research is warranted even more since written language disorders are a heterogeneous group (Hooper, 2002; Katusic, Colligan, Weaver & Barbaresi, 2009).

Many research studies have demonstrated that children with LD manifest deficits in written productivity. Houck and Billingsley (1989) investigated the writing samples of participants studying in grade 4, 8 and 11. The results of their study showed that compared to typically developing children, children with LD wrote lesser number of words and sentences, higher number of words per sentence, lesser longer words (words with or more than seven letters) and also showed higher percentage of capitalization and spelling errors. The authors conclude that the written language difficulties in these children were persistent across grades.

Sheetal and Sangeetha (2010) investigated the written language skills of typically developing Indian children in comparison with children with LD studying in the first to fifth grades. The children had Kannada as their native language and English as the medium of instruction in schools. An expository writing task in English was used for assessment of written language skills. Analysis of results showed that children with LD produced lesser Total Number of words and Number of T-units calculated using the SALT software. The results indicated that children with LD performed poorer than age matched peers on measures of written productivity along with deficiencies in measures of accuracy and syntactic complexity. The author concludes that children with LD manifest deficits in either one or many levels of processing in addition to deficits in written productivity. In this study, though children were Kannada-English biliterates, written language was assessed only in English probably since it was the medium of instruction.

Shanbal (2010) investigated the development of biliteracy in Kannada-English typically developing bilingual-biliterate children studying in the fifth, sixth and the seventh grade. Children with LD were also included in the study. Phonological awareness, rapid verbal naming,

reading , listening comprehension and written language skills were assessed. An expository writing task was used to assess the written language skills of children. Shanbal (2010), among other written language measures, used Total Number of words and Number of T- Units in order to assess the written productivity in children. The results of the study revealed that the total number of words and the number of T-units were found to be greater in English compared to Kannada. The author attributes these findings to the difference between the structures of the two languages. The agglutinative nature of Kannada (i.e. fusion of morphemes in a word) allows for the use of lesser number of words to convey information. On the other hand, English requires the use of different words to convey information thus leading to greater number of words to convey the same meaning as a sentence with fewer words in Kannada.

Puranik, Lombardino and Altmann (2008) studied the development of the micro-structural elements of written language in typically developing children studying in grades three to six. A story retelling task was used for the study. The measures comprised of total number of ideas expressed, mean length of T-unit, number of T-units , total number of words, number of clauses, percentage of grammatical T-units , clause density, percentage of spelling errors, and errors in writing conventions. The analysis of their results indicated that the measures mentioned can be classified as accuracy, syntactic complexity and written productivity measures. The results of their study also showed that there was a developmental progression for the written productivity measures such as total number of words and total number of ideas expressed. No such trend was noticed for syntactic complexity and mixed results were obtained for accuracy measures.

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Another factor compounding the development of written productivity is the aspect of children having to develop written language in more than one language. But the available research in the area of written language development has mostly concentrated on one language (Gort, 2006). Grosjean (1985, 1989) has condemned the application of monolingual research to bilingual children by suggesting that it is a fractional or monolingual view of a bilingual. This is especially relevant in a multilingual and multicultural country like India. In India children are exposed to at least two languages, one being the regional language and the other being English, which is most often the medium of instruction in school settings. Therefore most children are growing up to be biliterate and facing the challenges of developing writing in two distinct languages.

Hopewell and Escamilla (2014) define biliteracy as the development of reading, writing, listening, speaking and thinking competencies in more than one language. The development of biliteracy is far more complex than the development of monoliteracy since in biliteracy, language learning occurs in diverse and constantly changing situations (Hopewell & Escamilla, 2014). Research has indicated that children being educated in more than one language would exhibit greater academic development due to increased learning opportunities (Lindholm- Leary & Genesee, 2014). Thus, the credibility of generalization of results obtained for monolinguals to bilinguals becomes questionable. Thus, the importance of systematic studies on the influence of L1 skills on the acquisition of L2 written language skills cannot be understated. The knowledge about how children acquire written language skills in two different languages is very important so that assessment and treatment techniques can be developed that are developmentally, culturally and linguistically appropriate for biliterate children with written language difficulties

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(De Silva, 1998). Such studies would also help us in understanding the cognitive, intellectual and cultural outcomes of biliteracy (Dworin, 2003). Kannada follows a semi syllabic or transparent script and the script of English alphabetic or opaque. Thus understanding of how written language develops simultaneously in these two languages with distinct writing systems would be interesting.

Another inadequacy in the area of biliterate written language research is that most studies that have evaluated written compositions in these children have done so on older children especially adolescents (e.g., Danzak, 2011a, Danzak, 2011b, Hedman, 2012 etc.). Berninger (2000) stated that the stages of planning and revising in writing of elementary school children (children studying in the first to fourth grades) are restricted by their limited transcription skills. Also, Alamargot and Fayol (2009) reported that learning of written production begins at around 5-6 years of age and the acquisition of basic composition skills starts around 10 years of age. Since the acquisition of composition skills begin to be acquired by around 9 to 10 years of age, by studying older biliterate children, we may miss out on crucial information on how biliterate written language acquisition may take place in younger children. Furthermore, most of the studies conducted in the area of bilingual/ biliterate writing have been qualitative (Fitzgerald, 2006).

In summary, through the review of past literature we can understand that studies on the biliterate population have focused on the development of early processes such as phonological processing, inventive spelling and word reading required for literacy (Bialystok, 2007; Geva, 2006; Shanahan & Beck, 2006) and very few have focused on written composition. Also,

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majority of studies conducted in emerging biliterates have focused mostly on reading. Moreover, the studies which have focused on written language in biliterates have focused on older children (mainly adolescents) and not on younger children. There is a dearth of studies investigating written language in Indian biliterate children who learn writing in a non-alphabetic script (Kannada) and an alphabetic script (English) simultaneously. Also, studies on a clinical population , mainly LD , who are emerging Kannada- English biliterates are lacking. With this background, examination of written productivity in biliterate children with LD is of utmost importance so that it guides appropriate instruction. Thus the objectives of the present study were to investigate and compare written productivity in Kannada-English biliterate children with Learning Disability (LD) in each of their two languages. In the present study, a narrative writing task was used. This is because narrative tasks provide information about discourse units beyond the level of the sentence (Griffith, Ripich & Dastoli, 1986). Griffith, Ripich and Dastoli (1986) also report that narrative written tasks also provide information about the child's skill of logically ordering and presenting ideas; connecting past experiences with the present task at hand; using suitable linguistic devices to produce a coherent text and consider the needs/ knowledge of the reader.

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Materials and Methods:

i) Participants

The participants of the study included fifteen children with LD and thirty TDC. All the participants were studying in the fourth grade within the age range of 9 to 10 years (9.0 years $\leq$ A <10.0 years , where 'A' is the age of the child; Mean age: 9.5 years). There were equal number of males and females in the TDC group i.e. 15 males and 15 females. The LD group included

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three females and twelve males. Kannada was the native language and English was the medium of instruction (in school) for all the participants. All the participants were sequential bilinguals who learnt Kannada at home and were later slowly exposed to English predominantly in school settings. All the participants had approximately six to seven years of English exposure. All the participants in the study knew how to read and write in both Kannada and English. In academic settings, Kannada was one of the subjects to be studied while English was the language through which children learnt the rest of the subjects (medium of instruction). Children in the TDC group were screened using the the WHO Ten Questions Disability Screening Checklist (Singhi, Kumar, Malhi & Kumar, 2007) to exclude those with neurological, behavioural or sensory problems and or a history of delay in development. The TDC were also screened using the Tool for screening children with writing difficulties (ToSc-WD) (Shanbal, 2003) to rule out any written language difficulties.

A random sample of children with LD within the age range considered was selected for the study from those who came to seek Speech and Language services at our institute. A written informed consent was obtained after the parents of both TDC and children with LD were familiarized with the study. Children with LD were diagnosed by Speech Language Pathologists (SLPs) in collaboration with Clinical Psychologists. SLPs assessed children with LD using the 'Test of Early Reading Skills' for Indian children developed by Loomba (1995). Those children who were found to function at the level of two grades below their actual grades on the Test of Early reading skills were included for the study. Clinical psychologists assessed the IQ of children with LD and only those children who demonstrated a Performance Intelligence Quotient (PIQ) greater than 80 on Ravens Progressive matrices were selected as participants for the study.

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Children with LD who had a history of language delay were not included for the study but the children performed poorly on the syntax section of the Linguistic Profile test in Kannada (Karanth, Ahuja, Nagaraja, Pandit & Shivashankar, 1991) scoring somewhere between 55.95 to 69.07. These scores indicated that children with LD performed at the 7 to 8 year age range in terms of syntax. Besides, all the children with LD had difficulties in reading and writing both English and Kannada.

All the children selected for the study belonged to the middle socio-economic status which was ascertained through the use of revised version of the NIMH Socio-economic status scale (Venkatesan, 2011). The pattern of language use in all the children was assessed through the use of 'Language use questionnaire' (Shanbal, 2010). The parents rated the amount of exposure, use and the proficiency of their children in Kannada and English. The overall results of the questionnaire indicated that most of the children were exposed more to Kannada (75% to 100%) and less to English (25% to 50%) at home settings. On the contrary, children were exposed more to English (75 % to 100%) and less to Kannada (25% to 50%) at school. Additionally, it was also found that children had better receptive and expressive abilities of spoken language in Kannada (75% to 100%) in comparison with English (25% to 50%).

ii) Stimuli/Material and procedure

All the participants in the study were instructed to write a story in response to a sequence of pictures portraying a child falling from a tree. Researchers such as Cain and Oakhill (1996) have reported that with the use of picture prompts, children with LD produced more causally related narrative compositions compared to verbal prompts. Additionally, to decrease the

complexity of the task and to reduce the anxiety of children related to novel written tasks, pictorial prompts were used in the present study. The picture prompts used were adapted from the picture stimuli (cited in Carretti, Maria Re & Arfe, 2013) developed by Tressoldi and Cornoldi (1991) as a part of a standardized Italian battery for the assessment of written language skills in children.

The picture stimulus was used for the present study after modifying it to suit the Indian context. Some of the modifications made included changing the colour of the bedspread in the hospital scene from white to green, addition of a drip set next to the bed and a blood stained band aid on the head of the child so that Indian children would get a better idea that the child landed in a hospital after falling from the tree. Also, an extra picture was added to clearly show the child falling due to the branch of the tree breaking. The colour of the hospital wall was changed to blue from a pale orange so that the white plaster on the fractured leg of the child is highlighted in a better way. Children were instructed to write as if they are narrating the story to a friend. The children were instructed to complete the task within a span of thirty minutes. The children were asked to write the story in Kannada and English on two different occasions and the order of presentation was counterbalanced. The procedures used in the study adhered to the ethical considerations stated by Helsinki (2013) and was approved by our institutional review board.

iii) Analyses

The Systematic Analysis of Language Transcripts (SALT; Miller & Chapman, 2001) software was used to analyze the written samples of the participants. The measures used by

Puranik, Lombardino and Altmann (2008) and Shanbal (2010) for assessing productivity of written language in children was modified and used in the present study.

The measures of productivity included:

1) Total number of words (TNW): The written samples were transcribed and coded into SALT software and the TNW in the entire composition was automatically calculated by the software.

2) Number of T- units (No T-Unit): For a T-unit, one sentence was considered with all the subordinate clauses embedded in it according to the criteria suggested by Hunt (1965).

3) Number of Different words (NDW): NDW is a vocabulary productivity measure that is often used in the written language assessments of biliterate children (e.g., Danzak , 2011; Miller, Heilmann, Nockerts, Iglesias, Fabiano, & Francis, 2006; Paradis, Crago, Genesee, & Rice, 2003). The written samples were transcribed and coded into SALT software and the NDW was automatically calculated by the software.

Results

The written samples were subjected to analysis using the SALT software. The parameters were examined for both languages in both the groups (i.e, TDC and children with LD). Non parametric statistics were used for statistical analyses as the results of Shapiro-Wilk's test revealed that most of the parameters followed a non-normal distribution (p<0.05). The non parametric tests were administered to compare between the groups and across languages in both the groups. Wilcoxon signed rank test was administered to check for differences in the performance of TDC in English and Kannada and to check for differences in the performance of children with LD in English and Kannada. Mann Whitney test was administered to compare the

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performance of TDC and children with LD. Table 1 shows the Mean, Median and Standard Deviation values of the measures on SALT for TDC and LD in Kannada and English.

Wilcoxon signed rank test was administered to check for differences in the performance across English and Kannada of TDC and LD groups separately. The results of pair wise comparisons using the Wilcoxons signed rank test revealed a significant difference between the following parameters: Total number of words (p<0.01, Z=4.425, $\eta^2 = 0.81$) with Total number of words being greater in English (Median = 56.00, SD= 18.61) compared to Kannada (Median = 44.00, SD = 14.81) in TDC (see Table 1). A similar trend was also seen in the LD group with TNW (p < 0.01, Z= 3.408, $\eta^2 = 0.88$) being greater in English (Median = 67.00, SD= 24.76) compared to Kannada (Median = 29.00, SD= 10.37) (see Table 1). Additionally, in TDC, there was a significant difference between number of T-units in Kannada and English (p < 0.01, Z=3.283, $\eta^2 = 0.60$), with number of T-units being greater in Kannada (Mean = 7.87, SD= 2.32) compared to English (Mean = 6.00, SD= 2.29)   (see Table 1). But in the LD group, there was no significant difference between Kannada and English on the Number of T-units (p= 0.053, Z=1.934, $\eta^2 = 0.50$) which just missed significance. The results also revealed that there was no significant difference in number of different words (p > 0.05, Z=0.076, $\eta^2 = 0.01$) between Kannada and English in the TDC group. In contrast, there was a significant difference (p< 0.01, Z=3.159, $\eta^2 = 0.82$) between Kannada and English in the LD group for NDW, with more different words in English (Median = 40.00, SD= 16.42) than in Kannada (Median = 25, SD= 6.24) (see Table 1).

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Mann Whitney test was administered to compare the performance of Typically Developing Children (TDC) and children with LD. The results revealed (see Table 1) that there was a significant difference between the performance of TDC and children with LD on the following measures in Kannada language : number of T-units (p <0.01, Z= 2. 973, $\eta^2 = 0.44$) with TDC (Mean = 7.87, SD= 2.32) showing a higher number of T-units than children with LD (Mean = 5.60, SD= 1.64) (see Table1) , Total number of words (p < 0.05, Z=2.578 , $\eta^2 =0.38$) with TDC (Median = 44.00, SD= 14.81) showing a higher total number of words compared to children with LD (Median = 29.00, SD= 10.37) (see Table 1); Number of Different words (p<0.01, Z=2.941 , $\eta^2 = 0.44$) where TDC (Median = 35.00, SD= 10.51) produced more number of different words in comparison with children with LD (Median = 25, SD= 6.24). The results also revealed that there was no significant difference between the performance of TDC and children with LD in the English language: Number of T-units (p> 0.05, Z=0.438, $\eta^2 =0.07$); Total number of words (p> 0.05, Z=0.964, $\eta^2 =0.14$) and Number of different words (p> 0.05, Z=0.627, $\eta^2 =0.09$).

Discussion

In TDC and children with LD, TNW was found to be greater in English compared to Kannada. This result could be due to the structural differences between Kannada and English. Words in Kannada are formed by the fusion of morphemes into single word, whereas, English requires more number of words to convey the same meaning (Shanbal, 2010). For example, the sentence in Kannada, 'ನಾನು ಶಾಲೆಗೆ ಹೋಗಬೇಕು' /na:nu ʃa:lege ho:gabEku/ contains three words

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with three free morphemes and two bound morphemes. The same sentence in English, "I have to go to school" contains six words. The agglutinative nature (i.e., fusion of many morphemes to form a single word) of Kannada, as mentioned before, may have led to the production of lesser number of words in Kannada compared to English. Therefore in Kannada , information through writing can be conveyed via lesser number of words. On the other hand, English requires the usage of more number of words to convey the same information (Shanbal, 2010).

The results of the present study also showed that the number of T-Units were greater in Kannada compared to English in TDC. This can be thought to be due to greater proficiency the children had in their L1 i.e., Kannada compared to their L2 i.e., English since they were successive bilinguals. The children had more number of years of exposure to Kannada at home whereas they were mostly exposed to English only after entering school. This finding also supports the claim that written language is dependent on the oral language abilities of children (Baker, Gersten, & Graham, 2003; Berninger & Swanson, 1994; Berninger & Abbott, 2010; Kim, Al Otaiba, Puranik, et al., 2011 ; Shanbal, 2010; Sulzby & Teale, 2003). Children with LD, however, did not show a significant difference between the number of T-units in both Kannada and English. But they demonstrated significantly lesser number of T-units than TDC. This could be due to deficits in written productivity in these children.

There was no significant difference found between the NDW between Kannada and English in TDC. This could be because NDW could be on the same points of continuum of development in both Kannada and English. However, in children with LD, NDW was found to be greater in English compared to Kannada. This could be due to greater exposure of these

children to English since English is the medium of instruction in schools and Kannada is just one subject. Thus these children might have had increased opportunities to learn and rehearse written language in English thus leading to production of greater NDW in English compared to Kannada.

In Kannada, TDC showed more number of T-units compared to children with LD. Children with LD manifest difficulties in the planning, organization , transcription and revision stages of writing (according to the Hayes & Flower's, 1980 model of written language) . Reduced No T- Units could be due to deficit at the planning stage, where there is a problem either with the number of ideas generated or in transforming the ideas from a pre-verbal to a verbal form. This finding is supported by the results of several studies which have demonstrated that children with language based LD exhibited written productivity deficits by producing reduced Total number of utterances compared to age matched children (e.g., Barenbaum, Newcomer & Nodine, 1987; Houck & Billingsley,1989; Laughton & Morris, 1989; Newcomer, Barenbaum & Nodine, 1988; Nodine, Barenbaum & Newcomer, 1985; Puranik, Lombardino & Altmann, 2007; Scott & Windsor, 2000; Sheetal & Sangeeta, 2010; Vallecorsa & Garriss, 1990). Also, limitations in vocabulary use in writing of these children may be due to the limited reading experiences of children with LD (Gregg & Mather, 2002). Due to their reading and decoding difficulties their vocabulary does not develop similar to their age matched peers. This might have led to lesser TNW in children with LD. Gregg and Mather (2002) also note that in certain children with LD, quick recall of words they already know may be affected. This is similar to a word finding problem. Therefore, children might use certain "non-specific words" (p.13) more often than necessary and also repeat certain words just to fill space. Such unnecessary repetition

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of the same words in the written samples in the present study might have led to lesser NDW in children with LD compared to TDC.

The results of the present study also revealed that children with LD exhibited lesser TNW compared to TDC in Kannada. This could be because of the underlying poorer vocabulary reported in children with LD. This finding is supported by several research studies which have found that the writing of children with LD is concise, is less extensive and has lesser number of words per composition (Graham & Harris, 2003; Harris, Graham, & Mason, 2003; Newcomer, Barenbaum, & Nodine, 1989; Saddler, 2006; Troia, 2006; Vallecorsa & Garriss, 1991). It was also found that children with LD showed lesser NDW compared to TDC in Kannada. This could also be attributed to the poorer vocabulary in children with LD. Also, research has shown that some children with LD experience problems in finding the right word to express their ideas even though they might know the meaning of words, children with word finding difficulties tend to overuse certain words and reiterate certain phrases and words just to fill up space (Gregg & Mather, 2002). So, children who cannot use diverse words to express their ideas, are found to have narrower vocabulary and may not know how to use the appropriate strategies to retrieve words while writing (Gould, 1991).

In English, there was no significant difference found between TDC and children with LD on all the productivity measures i.e., TNW, No T-Units and NDW. This was an unexpected finding. The reason for this finding could be that all the participants in the study , including TDC, were developing composers. Their composing abilities in their native language might have developed to an extent but might still be developing in their second language. Thus the absence

of a significant difference between the performance of TDC and LD in English may be because the TDC might have not, by themselves demonstrated an optimum level of performance. Though both the groups did not differ significantly in terms of written productivity measures used in the present study, children with LD demonstrated an overall poor quality of writing in terms of syntactic structure.

Conclusion

The present study is a preliminary attempt at studying written language in Kannada-English biliterate children with LD and opens up different avenues for future research in this area. The results of the study support the notion that written language is dependent on oral language skills. It was found that greater proficiency and greater amount of exposure to a particular language lead to better written productivity when two languages are compared in biliterate children. The present study also reiterates the importance of assessing both the languages in biliterate children in order to obtain a complete picture of them as writers.

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