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The Role of Story Telling in the Development of the Child's Lexical Richness: A Case Study

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Abstract

This case study, which is part of a larger project on the development of academic language at school and at home (DASH), aims to investigate the role storytelling can play in improving children's lexical richness, including lexical density and lexical diversity. Two mothers and their children from different social and educational backgrounds took part in this study. They were involved in a shared storytelling interaction task, which was video recorded and transcribed verbatim, in accordance with the CHAT-conventions as described by Mac Whiney in the CHILDES system. Data were coded according to the DASH coding scheme developed by researchers within the DASH project. Data analysis showed that the use of lexical features varied considerably among the two mothers and their children. Compared to the low social and educational background mother, the affluent and well-educated mother provided her child with more varied and denser lexical input and interactive literacy strategies which have proven to influence the child's output at home. The findings revealed a strong correlation between a child's early exposure to academic lexical input through storytelling and the development of their lexical richness.

1. INTRODUCTION

During the early years of their life, children undergo major changes, particularly in relation to their academic language development. Once at school, children are exposed to a new language register, academic language (AL), which is lexically more precise, structurally more complex, and cognitively more demanding than the language they were used to. Consequently, they are unprepared for activities that require AL in an unfamiliar language that is sometimes not their mother tongue. Such is the case for most Moroccan children who generally use

Moroccan Arabic[1]—widely known as Darija—at home but are required to use Modern Standard Arabic (MSA) at school. Nevertheless, studies show that children who can produce oral language that includes features of AL tend to face fewer challenges at school, are highly valued by teachers, and achieve academic success in the long-term (Townsend et al., 2012). In contrast, students who are unable to do so are considered problematic cases and are not easily guided toward further development of this type of language use (Schleppegrell, 2004).

In the classroom, students typically display their knowledge via the use of technical, specific, dense, and diverse vocabulary to generate a precise, logical, and connected discourse. Several studies have demonstrated that later academic success is predicted by a child's vocabulary knowledge at early stages of life (Cunningham & Stanovich, 1997; Bleses et al., 2016 & Dale et al., 2022)). In other words, despite being associated with classroom discourse, academic language can be found in the early years of the parent-child interactions in their home environment. Children involved in those interactions are well-prepared for the linguistic challenges of schooling and can, thus, cope more easily with the academic demands of the school content than children with less exposure to school language features in their home environments.

Parental socio-economic status, educational backgrounds, and the use of literacy activities, including shared book reading and shared storytelling at home are some of the primary factors that have been found to have a powerful impact on children's vocabulary growth and production both at home and at school (Benjelloun, 2017; Hart and Risley, 1995; Heath, 1983). While shared book reading interaction tasks have a positive influence on children's language development, including vocabulary growth (Flack, Field & Horst, 2018), storytelling and/or the use of wordless books appear to promote children's engagement with the story as evidenced by their high levels of participation and language productivity (Petrie et al., 2021). In other words, the parents' rich lexical input can positively influence their children's productive vocabulary. Moreover, the frequency and quality of the input provided to young children has a substantial impact on their vocabulary growth (Pan et al., 2005)

More importantly, the literacy strategies parents use with their children during informal storytelling interaction tasks, such as dialogic reading and visual thinking, can promote child engagement and scaffold learning (Grolig, Cohrdes, Tiffin-Richards & Schroeder, 2020). In addition, word comprehension seems to improve when parents ask questions about words in a story versus parents who do not ask questions (Lenhart et al., 2019).

The aim of the present study is to investigate the impact of the quality and frequency of parental lexical input on their children's output. This will be demonstrated though an initial exploration of the extent to which lexical richness—including lexical density and lexical diversity—is present in the interaction between two mothers and their children during a storytelling activity in two different households, and how a mother's social and educational background might influence the development of her children's lexical richness.

[1] Note that some children may use Amazigh, the other mother tongue in Morocco, especially in rural and mountainous areas.

The present study stands as one of the very few studies investigating the situation of Moroccan children in the home country. It is also among the few studies that deal with the issue of the Moroccan child's academic language development.

2. Theoretical Framework: Systemic Functional Linguistics

The theoretical framework underlying the study is systemic functional linguistics (SFL), a theory developed by Halliday in the 1960s (Halliday, 1994, 2004; Halliday & Matthiessen, 2004). SFL focuses primarily on the function of language and emphasizes the important role linguistic choices play in achieving communicative goals in different social contexts. In other words, form and meaning are always driven by the context and the speaker's communicative goals. SFL also describes how and why language varies in relation to the users of language and social context (Halliday & Hasan, 1989). SFL uses the notion of register to clearly show the relationship between language and context. Halliday & Hassan (1989) define register as "a constellation of lexical and grammatical features that realize a particular situational context." The nature of the context usually determines the language register needed to function appropriately in that context. Unlike typical social interaction, academic discourse requires a formal language register that includes specific, impersonal, and precise lexical words, in addition to long and carefully constructed sentences that are typically used to perform a particular function for a particular audience in a particular academic context (Schleppegrell, 2004).

2.1 Academic Language Register: Key Concepts

Academic language is a term used to describe the language needed at school. Other terms have been used by educators and linguists such as "*language of schooling"* (Schleppegrell, 2004), "*language of education"* (Halliday, 1994), "*cognitive academic language proficiency"* (Cummins, 1991) and "*the specialized language, both oral and written, of academic settings that facilitates communication and thinking about disciplinary content"* (Nagy & Townsend, 2012). A student's academic language register is used to convey specific, cognitively complex, and decontextualized knowledge. This type of language generally differs in many ways from the language used for informal purposes at home. Children who use academic language are already demonstrating signs of later academic success (Schleppegrell, 2004, 2012; Townsend, Filippini, Collins, & Biancarosa, 2012).

As previously mentioned, the nature of the context usually determines the language register needed to function appropriately in that context. Halliday (1994) and Schleppegrell (2004) highlight three types of linguistic variables used to determine the appropriate academic register: field, tenor, and mode. *Field* refers to the ideational, i.e., what the content of the sentence is. *Tenor* refers to the interpersonal, i.e., the relationship between the speaker and listener or the writer and reader. *Mode* refers to the textual, i.e., how a particular text should be structured or organized.

The present study is centred on the *field* variable, which focuses on what is being talked about. It is determined through the lexical choice of nouns, verbs, and other content words. Academic language is characterized by using a more specific, diverse, and denser lexicon to convey ideas, describe situations, and refer to time and space in a more accurate way. In the

school context, children are expected to take part in discussions that require the use of complex, decontextualized, and abstract topics without relying on any contextual, deictic cues or shared knowledge between the speaker and the hearer as they do in everyday contexts. The linguistic choices in the interactional and school-based texts are different. As the content of a text relies heavily on vocabulary choices and is more subject-specific, children are expected to use appropriate words to demonstrate what they have learned (Schleppegrell, 2004). It should come as no surprise that children who are exposed to similar texts at home are usually more successful academically than those who are not.

Lexical richness is then one of the salient prerequisites for children's academic success (Cummins 1991& Daller, et al, 2003). It is a multidimensional concept, which focuses on the quality of vocabulary in a language sample. (Malvern & Richards, 2012). It encompasses lexical density and lexical diversity which have been used to describe the "later lexical development" (Johansson, 2008)

2.2 Lexical Density

Lexical density, a term first introduced by Ure (1971), is used to measure the ratio of content words to function words in a written or spoken interaction. Content words, such as nouns, adjectives, verbs, and adverbs, typically express the meaning of the sentence whereas function words, such as pronouns, prepositions, conjunctions, auxiliary verbs, articles, determiners, and interjections, express the grammatical relationships between those words. AL is characterized as being denser than informal language. It uses a larger proportion of content words, such as nouns, verbs, and adjectives to provide the most important information about objects, situations, and persons while function words are used to link words together (Schleppegrell, 2004). Children at school are required to use varied content words and avoid using fillers such as "hhh, hmm, er" and deictic and pronominal cues that do not provide the listener with enough information. Moreover, they should convey their ideas in an explicit way without assuming any shared situational knowledge with the listener.
Nevertheless, not all children have experience with academic language before school entry (Schleppegrell, 2012).

2.3 Lexical Diversity

Lexical diversity accounts for the number of different words used in a text or a conversation as a proportion of the total number of words used. A text is considered highly lexically diverse if it contains a wide range of varied vocabulary, including different word types (Johansson, 2008:61). The language used in formal settings usually has a higher level of diversity than the language used in informal ones. However, children who are exposed to some literacy activities at home, such as storytelling or story reading may produce this kind of language in the school context and subsequently demonstrate signs of future academic success. Indeed, storytelling has proved to have positive gains on children's oral language production (Isbell et al., 2004), especially in terms of using dense and diverse language.

3. Literature Review

A vast body of research has investigated the possible influence storytelling has on the language development of young children. Ahrens (2011) emphasises the importance of storytelling for children and argues that it is vital to start reading to the child at an early age because doing so boosts their vocabulary and might be beneficial if that child tells the story to someone else. Myers's (1990) study, which involves telling and reading stories to two groups of young children revealed that the children and the storyteller not only had more fun but also interacted more during storytelling than story reading. This discovery can be explained by assuming that the learners are usually more imaginative with picture stories than in story reading as there is no influence of texts that can distract the listener's attention. According to Ellis (1997), imaginative development is a key benefit of storytelling because it can translate into expressive words to convey ideas, leading to more comprehension and vocabulary development. In the same line, Trostle & Hicks (1998) found that children in a storytelling group scored significantly higher in terms of comprehension and vocabulary skills than the story-reading group. Walker's (2001) study of three groups of children, a storytelling group, a story reading group, and a listening to a CD-ROM group, revealed that the children in the storytelling group achieved higher scores in comprehension than those in the other two groups. Palmer, Harshbarger, and Koch's (2001) observational study showed that young children made gains in story concept, comprehension, vocabulary, and many other areas after participating in a story time program using storytelling.

As mentioned earlier, the children's home environment plays a key role in their language learning and growth. More specifically, the quality of parental input has more of an impact on their children's vocabulary growth than the quantity of their input (Henrichs & Schoonen, 2009). Several factors come into play to explain the differences in the quality of language input with which parents provide their children. These factors are mainly dependent on the parents' socio-economic status as well as the mother's level of education, which in turn affects the literacy activities and strategies used at home and the whole process of their children's language development. Hart & Risley (1995) discovered that children of parents with a high socio-economic status (SES) hear approximately three times as many words over the course of one week than children from low-SES households. As a result, low-SES children end up having less vocabulary at school entry than children from high-SES homes. Pan et al., (2005) concluded that children who experience sensitive and cognitively stimulating home environments early in their development are at an advantage in the learning process. Children whose families differ in their socioeconomic status differ in their rates of productive vocabulary development, as they have different language-learning experiences (Hoff, 2003). Therefore, high-SES mothers tend to talk and engage their children more frequently in conversations than lower-SES mothers, who tend to direct their children's behavior instead of conversing with them (Hoff, 2006). As a result, these children usually have fewer conversations with adults and are exposed to far fewer words than more advantaged children (Dickinson & Tabors, 2001). In fact, children learn new words and structures by being exposed to them in a shared context, usually in a reading context with their parents (Tomasello, 2003). Moreover, exposing a child more frequently to certain linguistic expressions as part of a well-rehearsed routine makes it easier for the child to learn them (Tomasello, 2003). It has also been shown that the frequency

of input provided to young children has a substantial impact on their vocabulary growth (Pan et al, 2005). Borovsky (2008) argues that providing children with language input at an early age helps them to improve their vocabulary and achieve academic success at an early age, while a reduced exposure to AL at home may lead to learning difficulties later (Jones & Rowland, 2017; Pan et al., 2005 & Rowe, 2008, 2012).

The types of tasks that mothers and their children are involved in also influence the structure of the children's oral production. Hoff (2006) declared that "The setting influences not only the content but also the structure of the speech production". For instance, in the book-reading task, well-educated and higher income mothers are more likely to produce more structurally complex speech with a larger vocabulary, a higher frequency of questions, and discussion about language itself (Hoff, 2003). Consequently, the type of language children bring from their home environment often has a powerful impact on the level of their language production at school. Indeed, Cummins (1996) declares that "Children who come to school with a strong foundation in their mother tongue develop stronger literacy abilities in the language used at school".

Picture storytelling, another visual literacy activity children are usually enthusiastic about, is vital to the development of their imagination, communication skills, and knowledge about the world around them. Shah (2016) and Ohi (2003) outlined the main reasons why picture stories or picture books are important. First, pictures attract children's attention; they can convey messages about their own culture and other cultures and stimulate conversations between a child and an adult. Second, through stories, children learn the wisdom of listening to one another. Finally, stories can be an important source of language input as they include new vocabulary that can help children develop their lexical richness, namely lexical density, and lexical diversity. Ellis (1997) considers storytelling the most effective way to develop listening skills. Storytelling also provides an opportunity to experience the difference between listening quietly and listening actively (i.e. by participating in the process). Colon-Vila (1997) agrees that storytelling helps teach children to listen, and enables them to develop skills in both oral and written communication while developing an understanding of the story schema. Besides using literacy activities, the activation of appropriate literacy strategies during picture storytelling or shared book reading also enriches a child's lexis. In short, the way adults read to young learners is as important as how frequently they read to them. Several researchers have developed strategies for reading to young learners which can aid in the development of their lexical richness.

Two of the most effective reading strategies are *dialogic reading* and *visual thinking*. These strategies include open-ended questions, repetition, modeling, and gradually shifting the adult's role in storytelling to the child (Whitehurst, 1992). When most adults share a book with a child, they tend to read while the child listens. Whitehurst (1992) argues that in dialogic reading, the adult helps the child become the teller of the story. The adult becomes the listener, the questioner, and the audience for the child, which encourages the child to play a more active role in this relationship and gives them the opportunity to produce more language. Visual-thinking strategy (VTS) can also be used to improve the learners' thinking and learning skills. This strategy results in richer and denser vocabulary production from the child, in addition to

more complex structures. The use of this type of vocabulary and structure is also an indicator of early and later academic achievements.

Despite the obvious benefits of dialogic reading and visual thinking, not all children are exposed to the same literacy strategies at home. Children from a more educated background—whose parents use literacy activities and strategies with them—have far more opportunities to demonstrate their imaginative skills than children whose parents are less-educated backgrounds. The family's socio-economic status can also enhance or impede a child's early literacy development, the quality of their language production, and later academic achievements.

The present study focuses on the role the home environment plays in enhancing a child's vocabulary. It investigates the type of vocabulary produced in a shared storytelling context between two mothers and their children belonging to different socio-economic and educational backgrounds using the different literacy strategies discussed earlier.

4. Research Methodology

This case study is part of a larger research project on the academic language development of 18 Moroccan children and their mothers from varying socio-economic and literacy backgrounds, with a focus on the development of lexical richness in a home context.

The study addresses two main research questions, namely (i) To what extent does the lexical richness in the mothers' input influence their children's output during picture storytelling? and (ii) How can the mothers' socioeconomic and educational background influence their children's lexical richness?

The study makes use of two main instruments, namely a semi-structured interview and a picture storytelling interaction task. The semi-structured interview was used to collect information about each mother's background as well as the literacy activities and strategies they use with their children at home. All the information gathered during the interview was useful for the analysis and interpretation of the interaction task between the mothers and their children.

The interaction task involved a simple and colorfully illustrated narrative, with more pictures and no text and is appealing to both boys and girls. The story was carefully chosen to allow equal opportunities for discussion and vocabulary use. The title of the story is "ʔuħibbu ʔummi:" ("I Love My Mum"), dealing with the emotional relationship between a mother and her daughter. The decision to choose a story with pictures and no text was based on the literature on the topic, which considers picture-storytelling important not only for the children's language development but also for their creativity and imagination. The absence of texts in books does not influence the mothers and helps determine how much children acquire from the books they read with their mothers and how this contributes to their language development.

Two Moroccan families are the focus of the present study. Both children, Lina and Hiba, were five years old and in the second grade of preschool; they did, however, attend different

schools, and come from different socio-economic and literacy backgrounds. Lina has two elder siblings (a stepbrother and a stepsister) and is the youngest in her family. Her father, born in 1949, has a secondary level of education and is a mechanic with a limited income. The mother, born in 1962, has had no formal schooling and is a housewife. She does neither read or tell stories to her child, and hardly ever discusses how Lina should learn and behave. The parents pay about 500 MAD a month for their child's education. The family lives in a small flat in a popular district in Casablanca. Unlike Lina, Hiba has a supportive and nurturing home environment. She is the middle child with two brothers. Her father is an engineer and has postgraduate degrees from both Morocco and abroad. Hiba's mother is also highly educated and has a Master's degree from a renowned private university in Morocco. She reads and tells different types of stories to her child. Hiba goes to an expensive private school that costs 2,500 MAD a month. The child does some after-school activities and the mother usually reads books to her.

4.1 Data Collection Process

The recording of the mothers' and children's interactions and the data collection was done by the researcher; one took place in the child's home, while the other happened at school. A 15-minute recording was done twice, at the beginning and towards the end of the academic year. The samples used in this article are taken from the first recording as no significant differences in terms of the use of lexical richness of both mothers and their children in term 2 (T2) were noticed.

After giving the instructions to go through the picture story with the child and the mother was ready to start the task, the researcher put on the video camera and the interactions were transcribed immediately from the beginning of the recording. The recording was stopped when the mother made it clear that they have finished and closed the story.

4.2. Data Analysis

The parent-child storytelling task was transcribed verbatim according to the DASH (Development of Academic Language at Home and at School) rules for transcribing the interaction tasks using a transcription system called CHAT (Codes for the Human Analysis of Transcripts). The DASH coding system is divided into four coding levels: lexical coding, morpho-syntactic coding, textual coding, and socio-pragmatic coding. It is applicable to many languages, including Arabic. The present study focuses on the lexical coding, including lexical density and lexical diversity.

To measure lexical density, several different methods have been developed. Egging (1994) indicate that the number of content words can be divided by the total number of words in a text. Halliday (1994) calculates lexical density by dividing the number of content words in each non-embedded clause, while Read (2000) suggests dividing the total number of content words by the number of function words. However, the most widespread method nowadays is the one dividing the total number of content words by the number of utterances (Schleppegrell, 2004). This study has purposefully opted for this last method. The lexical density is measured after the data is transcribed in fragmented utterances, dividing the total number of content words by the number of utterances.

Lexical diversity was traditionally measured by, a type-token ratio (TTR), which divides the number of different words in a text by the total number of tokens. However, this method is sensitive to the sample size and as a text gets longer, the number of types already encountered increases while the likelihood of any given token representing a new type goes down. Thus, a high TTR relates to a large amount of lexical diversity and a low TTR relates to low lexical diversity. Most scholars, including Henrichis (2010) and Laghzaoui (2011) have adopted a more advanced method, called the Index 'D', developed by Malvern & Richards (2002) and McKee, Malven & Richards (2000). The new computer program *vocd* found in the CLAN system is used to calculate the Index 'D'. *Vocd* randomly selects samples of 35 tokens and calculates the mean type of the token ratio (TTR) for the samples. This calculation is repeated until the last samples have 50 tokens, implying that a minimum of 50 tokens is needed to compute the Index 'D'. Note, however, that the current study has not been able to do the Index D calculations because of the limited number of participants and the disproportionate number of children, especially four-year-olds, who did not produce 50 tokens or more. Considering the limited import of the methods on the limitations of the current study, the most concise measure for lexical words was adopted, which involves counting the different words used in each transcript (Huttenlocher et al, 2010; Rowe, 2012).

5. Results and Discussion

The overall aim of the study was to examine the impact of mothers' lexical input and their socioeconomic and educational background on their children's output during a storytelling activity. The data were interpreted in the light of the two main questions the present study addresses and tries to answer. The findings below provide evidence for the role storytelling plays in the development of a child's lexical richness, especially in well-educated and affluent families.

5.1 Influence of Mothers' Input on Children's Lexical Density & Diversity

As mentioned before, the samples used in this study are taken from Term 1 (T1) as no significant changes or differences were recorded in Term 2 (T2). A first glance at the following excerpts shows that both Hiba and her mother produced lexically denser and more diverse discourse than Lina and her mother. The two aspects of academic language, lexical density, and lexical diversity, presented in the two excerpts below, are highlighted and discussed in more detail in what follows**.** Each aspect is presented in turn.

Lina's excerpt: Term 1

***MOT: ʃəkun hadi ʃənu huwa hada lli ka t ʃufi?	What's this? What that that are you looking at?
*MOT: ʃənu huwa hada lli ka t ʃufi?	What are you looking at?
*MOT: jallah	Come on!
*MOT: hadi bnita w had anunus hadi bnita w hada nunus [x N] jallah dwi?	This is a girl and this is a bear This is a girl and this is a bear. Come on! Talk!
*CHI: nunus.	A bear.
*MOT: wəhada?	And this?
*CHI: bnita.	A girl.
*MOT: ʃənu kaddir ?	What is she doing?
*MOT: ʃənu dajra?	What is she doing?
*MOT: naʕsa	She's sleeping.

*MOT : hdri baʃ nsmʕk.	Speak up! so I can hear you.
*MOT: ʃənu hada lina ?	What's this, Lina?
*CHI: mama.	My mother
Mothers' lexical density: 11/10=1.1	Mother's lexical diversity:13
Child's lexical density: 3/3=1	Child's lexical diversity: 3

Hiba's excerpt: Term 1

*MOT: nqra li k waħd l qissa waxxa.	I'll read you a story. OK!
*CHI: waxxa.	OK!
*MOT: jan ʃuf ʔaʃ nuɣa t fəhmi fi ha.	Let's see what you will understand.
*MOT: ʔaʃnuka t ʃufi f had ssura hadi ʃənu fi ha?	What do you see in this picture? What's on it?
*CHI: lʔumwə l bənt.	The mother and the daughter
*MOT: ʃənu kadir l ʔum lbənt ha?	What does the mother do for her child?
*MOT: məllika t bɣi t nʕasʃənu kandir li k ʔana?	When you want to sleep, what do I do for you?
the child smiles.	
*CHI: ka t qra j li ʃi ħaʒa	You read me something.
*MOT : tatqra liha ʃi ħaʒa mlli ktbɣi, tnʕas lʔum bntha.	She reads her something when the mother wants to make her daughter sleep.
*MOT: whna ja ʃnu kaddir lʔum?	And here, what is the mother doing?
*CHI: katṣajblha fmha.	She's checking her mouth.
*MOT: ʔaʃnu hada? ʔana makand rulksh ffmk. Kandirulk hna	What's this? I don't put it in your mouth. I put it here.
*CHI: mni katnkun mriḍa .	When I am ill.
*MOT: mni katkni mriḍa. kandi rlk mizan lħrara bash n ʃuf 'ʔaʃ nʃuf?	When you are ill, I use a thermometer to check to check what?
*CHI : lħarara.	temperature
*MOT: ʔalʔum taʕtani bibintiha ʕindama taku nu mari ḍa.	The mother looks after her daughter when she is ill.
Mother's density: 30 /10= 3	Mother's diversity: 24
Child's density: 9/6= 1.5	Child's diversity: 11

5.1. Lexical Density

The above excerpts show notable differences in the language both mothers and children used during the storytelling task. First, the introduction of the story was done differently for each child. Hiba's mother, a well-educated person, started by informing her child that she was going to read her a story, *"I'll read you a story. Okay!"* However**,** Lina's mother started the story by asking her what she could see, using deictic cues such as *"What's this? What's that that you are looking at?"* which resulted in the use of more function words than content words. Lina's mother used only eleven content words in ten utterances, as the list below shows:

- *ʃuf* / look (twice)
- *nunus* / a bear (twice)
- *bnita* / a girl (twice)
- *hdri* / talk
- *smʕ* / hear
- *naʕs* / sleep
- *dir* /do (twice)

Her daughter Lina produced only three content words in three utterances:

- *bnita* / a girl
- *nunus* / a bear
- *mama* / mother

In contrast, Hiba's mother used precise content words at the beginning and during the reading of the story. She produced significantly more content words than function words, with thirty content words in ten utterances, as it appears in the list below:

- *qra* / read (twice)
- *waħd* / one
- *qissa* / story
- *fəhm* / understand
- *ʃuf* / look (four times)
- *sura* / picture
- *dir* / do (four times)
- *ʔum* / mother (three times)
- *bənt* / girl (three times)
- *bɣi* / want
- *nʕas* / sleep
- *taʕtani* / take care
- *takun* / be (twice)
- *mariḍa* / ill (twice)
- *mizan lḥarra* / thermometer

Hiba, on the other hand, produced nine content words in six utterances on her own and without having heard her mother using them as shown below:

- *ʔum (mother)*
- *bənt (girl*
- *qra (read)*
- *ħaʒa (thing)*
- *tṣajb (check)*
- *fm (mouth)*
- *lħarara (temperature)*
- *takun (be)*
- *mariḍa (ill)*

Hiba and her mother's conversation includes more content words and a higher lexical density than Lina and her mother's conversation, who scored 1 and 1.1. This score can be explained in many ways. First, Hiba and her mother employed longer utterances than Lina and her mother did. They also used more content words to ask and answer each other's

questions and provided a lot of precise information about family routines. Lina and her mother, on the other hand, used more function words than content words, which do not provide the reader or the listener with more information about what is being communicated. Lina's mother also used deictic cues *hada*/*hadi* (this: masculine/feminine) to ask her daughter a question, which did not contribute any additional meaning to the discourse. Hiba's mother, however, used lexical words such as *had sura* (this picture) providing her child with enriching and precise vocabulary. Likewise, Hiba also produced more content words to be more precise about the information she was providing. Hiba and her mother, therefore, relied on the use of AL features, especially content words to provide the most important information about objects, situations, and persons and resorted to the use of function words only to link words together (Schleppegrell, 2004).

5.2. Lexical diversity

As far as lexical diversity was concerned, Hiba and her mother' interaction involved higher lexical diversity than Lina and her mother. While Lina's mother used thirteen different words, including five content words and eight function words, Hiba's mother used twenty-four words, including thirteen content words and eleven function words. Moreover, Lina's mother re-used the same content words in the same utterance *bnita* (a girl), *nunus* (a girl), which reduced both her lexical diversity and that of her child, who could not produce more than three content words. Hiba, who has been exposed to different types of stories at home as reported by her mother, was able to produce varied lexis (i.e., seven content words and eight function words). Her early exposure may explain her ability to produce more varied and diverse words in her speech. This finding is consistent with Hoff's (2006) claim that "the setting influences not only the content but also the structure of the speech production". It also confirms Petrie et al.'s (2021) finding that different book formats can promote the child's AL in different language learning environments qualitatively.

5.2. Impact of Mothers' Socio-economic and Educational Background on Children's Lexical Richness

A close look at the collected data reveals that mothers' socio-economic and educational background seem to play an important role in their children's language production in this study. This claim is supported by the data presented above. First, there were notable differences in the language produced by Hiba and her mother, who has a higher educational level and is a more affluent mother than Lina's mother. Hiba and her mother used a denser, more varied, and more precise language than Lina and her mother. As a result, Hiba showed more interest and enthusiasm about the story than Lina.

The factor that seems to have enabled Hiba to become more interested and engaged in the story—and produce more content words in her responses—was the mother's use of different literacy strategies, including dialogic reading and visual-thinking strategies. To be more precise, Hiba's mother used an interactive style, which started with making the child aware of the fact that the task involves a learning purpose (e.g., I'll see what you can understand). Then, she moved to talking about the context by asking questions about the pictures in the book (e.g., What do you see in the picture?) and offering an opportunity for her child to make predictions

beyond the context of the story and relate it to her personal experiences (e.g., When you want to sleep, what do I do for you?). These activities involve critical thinking and analytical skills that only a highly educated person can be aware of. Due to her high educational level, i.e., Master's degree, and the affluent socio-economic status of Hiba's mother, she seems to be aware of the importance of using visual-thinking strategies, which provide the child with hints and time to think about what she can see in the picture before relating it to her life experiences. Moreover, Hiba's mother also seems to realize that word comprehension is likely to be boosted when parents ask questions about words in a book when compared to no questions (Lenhart et al., 2019). Hiba did not only produce explicit, lexically dense, and diverse vocabulary to answer her mother's questions, but she also made real-life connections. In fact, giving a child the chance to make these real-life connections can provide the child with additional learning experiences. However, Lina's mother, who has a low educational level, relied only on the shared context, and could not go beyond the "here and now." She ended up using lots of function words and deictic cues, *hadi* (this) and *hada* (this), which did not help the child to lexically benefit from the conversation. Lina's mother did not seem to be very familiar with the reading task activity. Given both the low socio-economic status of and the limited income of the family, as well as the low educational level of both parents, the family does not invest in the purchase of books for their child. Hence, the reading activity is not a common practice for the child.

The present study also confirms DeTemple's (2001) findings related to the fact that children whose mothers used dialogic reading strategies during the reading of the book, especially when pausing to make comments or ask questions, tended to speak more often, used denser and more diverse language, and interacted better with their mothers during the activity. In contrast, children whose mothers read books with few interruptions tended to speak less. Indeed, more interactive reading styles facilitate and enhance language growth, narrative production skills (and vocabulary acquisition (Grolig et al., 2020). This is an activity that only educated people can undertake. This also raises an awareness of the value of reading and adherence to the reading culture in the home environment and to the investment in the purchase of books for the children.

It can, thus, be concluded that the mother's level of education and socio-economic status highly determines the type and degree of exposure to AL a child can get in the home context. The higher the mother's level of education and socio-economic status is, the more varied and wider range of vocabulary children are exposed to and the more AL they are likely to learn and use. In other words, children's output is highly influenced by their mothers' input. Hiba's family environment, which is a rich language environment, provided her with continual exposure to words that are not disconnected from her experiences. Thus, words have meaning for her and helped her produce lexically denser, and more lexically diverse language than Lina, whose family environment does not provide her with the same exposure. It is evident that children learn from the language they are exposed to. This finding is consistent with Hoff's (2003) conclusion that children from low SES homes are typically exposed to fewer words early in their development and have small vocabularies at school entry than children from high SES homes.

6. Conclusion

The objective of the present study was to investigate the extent to which features of academic language were found in a mother's input and her child's output and explore the factors contributing to the use of these features. The research provided some explanations for the different uses of the lexical features of academic language by the children and their mothers. Environmental factors, such as the mother's educational level and use of literacy activities and strategies were found to have a more powerful effect on the child's academic language performance than her socio-economic status, although there is a correlation between the two. After all, wealthy parents are more likely to have been educated at more expensive and "better" schools and have a higher level of education than lower-income parents. The present study revealed that children's early exposure to academic language can shape their future academic success. The study also showed that families with low economic status may not understand the importance of nurturing their child's language and literacy development (Harkness, 2015). Therefore, putting support in place in the early stages of a student's academic career could help families create better home learning environments to support their children's language development.

As is the case in any research, this study has some limitations. First, the study focused exclusively on picture storytelling, which is only one of the many literacy activities that can assist a child's academic language development. The study did not conduct a vocabulary-knowledge test with the children, which might have revealed other factors that could contribute to the development of academic features in children's language, such as cognitive skills, motivation, aptitude, and attitude. Another limitation of the study concerns the restricted nature of the participants, as fathers were not involved in the study. Their involvement may have revealed other factors that could explain or affect the results. Overall, the data used in the study represents a convenience sample, and no generalization can be claimed. It is also worth noting that the children's home environments may vary considerably across different cities and/or countries.Based on the findings and limitations of the present study, several new avenues could be explored in future research studies. Similar studies could be conducted on a larger sample to draw more accurate conclusions regarding the development of academic language of Moroccan children at home. Additional studies would also enable researchers to identify the factors behind the achievement gap that exists between children from lower-income and less-educated parents and their more-privileged counterparts and, as a result, make it possible for them to formulate recommendations that would foster the children's oral academic language development.

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