COMPARING LEXICAL DENSITY IN TEACHER TALKS: ELEMENTARY SCHOOL AND HIGHER EDUCATION LEVEL

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Abstract
Teacher talk must be specific, clear, concise, and comprehensible for students as the target interlocutors. This study aimed to characterize lexical density in teacher talks of elementary school teachers and university lecturers during teaching. A qualitative descriptive technique was used involving lexico-grammar analysis from an SFL perspective. The subjects of this study were three elementary school teachers (6th-grade teachers) and three university lecturers (English lecturers) who were voluntarily recorded during their teaching time; once for each. Hence, the object of this study is the transcriptions of teacher talks from these six research subjects which were then analyzed using documentation techniques of data analysis namely selection, categorization, classification, identification, and verification. The results show that the lexical density used in elementary school teacher talk is 42.65% (low) and that one employed at the university level is 36.76% (low). Unexpectedly, the rate for elementary school is somewhat higher than that for the university level. This case appears to have an intervening aspect because the elementary school is an international school. It is learned that an educational institution—regardless of its level—with a distinct learning target would certainly influence the lexical density employed in the teachers' spoken discourse during classes.

Keywords: ELT, lexical density, systemic functional grammar, spoken discourse

Introduction
The primary objective of language instruction is to improve the communicative ability of the students. Communication competence is the capacity to generate interactions with other people or simply to be able to respond. The interaction may appear to be an easy task, but numerous hurdles must be overcome for students to develop their language skills. Menegale (2008) discovered that teachers commonly continue to dominate class discussions. It is the most typical and traditional classroom practice that occurs during the teaching and learning process. This is further supported by the findings of Ryu and Sung (2005), who found that teacher talk dominated the majority of the teaching and

learning process in the classroom. The investigation revealed that the teacher adopted and utilized elicitation, response, and feedback in a systematic manner. Therefore, the pupils lacked sufficient time and opportunities for expressing and exploring their ideas and expressions. According to Yanfen and Yuqin (2010), the success of teaching is dependent to a great part on the method in which teachers communicate with learners—or the way the teacher talk is utilized. Organizing simple and easy-to-understand discourses during the teaching and learning process is an essential component of teaching a foreign language, and teacher talks not only determine how well they presented their topic but also ensure that students would learn effectively. It is understood that teacher talk was crucial to the teaching and learning process in the classroom. Consequently, teachers might utilize teacher talk to engage their students, such as by posing questions and providing comments. The active engagement of students in the classroom rises as a result of receiving feedback on their contributions.

Teachers are not suggested to employ complex terminologies. Technical language is difficult for learners to understand. Due to the language's intricacy, there is a propensity to not understand it at all. Written text and spoken text have a difference in density. Written texts often have a dense lexicon, but this does not always mean the reader will understand. Most do not, especially students. On the other hand, spoken text is then understood to be easier to pick up, particularly in the teaching and learning process (Mufidah & Wenanda, 2017). Lexical density and word content are connected linguistically. As it is well known, vocabulary can be divided into content terms and function words depending on their purpose. Thornbury and Slade (2006) state the content word has meaning and referent, while the function word has a function in the formation of grammar.

Communication between teachers and students is essential in English learning, specifically, and in all learning processes in general. It denotes the process of exchanging information, opinions, ideas, recommendations, and experiences. It emphasizes the importance of communication between instructors and students in the classroom (Sukmawati, 2018). It is critical in encouraging pupils to attain their English learning objectives. Teachers can examine their students' learning growth by observing the quality of interaction between instructors and students, as well as between students and their peers. Shomoossi et al. (2008), classroom engagement can help foreign language learners develop the level and quality of their language more easily and quickly. It implies that a conversation can affect their language learning process. Since language students in a classroom can use the target language for a variety of different purposes, including talking to the teacher and other students, one way to understand students' language is to look at how they use it to communicate during lessons, which has a big impact on how their language skills develop (Stubbs, 2002). So, teacher talk is important because it is a way for teachers to interact with their students while teaching and to organize classroom activities (Yanfen & Yuqin, 2010). They also say that repetitions, prompts, queries, and explorations are some of the ways teachers often talk to get students to interact more.

In teaching and learning activities, teachers play key roles as language models for pupils to copy. According to Arrumaisa et al. (2019), talks during the teaching process need to be tied to socio-cultural elements. Language and sociocultural components of relationships can be explained to lead to the outcome

of social agreement and; an increase in language competency which can be achieved or learned through the social environment; the language is utilized for social interaction; and the act of language is impacted by language norms that apply in a certain language community. Under this circumstance, it cannot be denied that a teacher engages in certain communication and verbal actions during the teaching process, such as explaining materials, asking and answering questions, and providing instruction. These all will undoubtedly assist students in doing similar things while performing classroom interactions designated by the teacher.

Consequently, teacher talks should be explicit, clear, simple, and easy to comprehend. In concern to this term, Systemic Functional Grammar has a theoretical perspective under the sub-concentration of the lexico-grammar concept. From the standpoint of SFL, lexical density, and grammatical intricacy are common qualities that characterize language complexity (Halliday, 1994). While lexical density is a frequent element of written language and scientific discourse, grammatical intricacy is the complexity of spoken language (Halliday, 2004). The complexity of written language is defined by lexical density, whereas the complexity of spoken language is defined by grammatical intricacy. As a result, no style of communication is more complicated than the other; rather, each is complex in its way. Spoken language is dynamic and complicated, but written language is stagnant and thick. However, this study employs the lexical density to spoken discourse, which is teacher talk to see the extent of density employed by elementary school teachers and lecturers. In certain forms of spoken discourse, a large number of content words may also be present, but they are dispersed throughout several clauses as opposed to written discourse, where they are densely packed (Nichols, 2009).

Simply said, lexical density is a measure of how informative and understandable a text is. Lexical items are nouns, verbs, adjectives, and adverbs (Halliday, 2008), while grammatical items are pronouns, determiners, finite verbs, and some classes of adverbs. Lexical density is measured by the ratio of the total lexical items to the total ranking clauses (Johansson, 2008). A higher percentage of lexical density shows that the text is rather hard to understand and becomes less informative for the listeners. The following is provided an example of a high and low percentage of lexical density.

Example 1:
The **fast black dog jumped quickly** over the **fat rabbit.**

The lexical words (nouns, adjectives, verbs, and adverbs) are in bold and underlined. There are precisely 7 lexical words out of 10 total words. The lexical density of the sentence above is therefore 70%.

Example 2:
He **told** her that he **loved** her.

The lexical density of the above sentence is 2 lexical words out of 7 total words, for a lexical density of 28.57%. This kind of sentence is mostly found in spoken discourse where context is supportive of the pronouns employed. This kind of sentence is almost impossible in a written text.

At the level of discourse semantics, the adoption of lexical items conveys meaning or experience about the world realized as a register variable of field, which governs the ideational metafunction of language, just as lexical density helps compress meaning in a grammatical structure (Jorgensen & Phillips, 2002; Saragih, 2013). According to studies, printed writings have a higher density than spoken messages (Eggins, 2004). Written language has a higher lexical density than spoken language. This is unsurprising that written language is more explanatory and will naturally contain more information-bearing, lexical terms, and more words to give further details to an object or concept. In addition, spoken language is extremely context-dependent and depends on nonverbal clues, reducing the number of lexical words necessary to express an idea. The reader is encouraged to check this out when they are performing a reading. The average lexical density of the reading materials examined was around 55%. However, it is not necessary at all when they are listening as context provides every detail needed. The average lexical density of the interview transcripts examined is around 45%.

The most potential problem rising in this term is that most students do not understand what their teachers or lecturers are trying to convey (Mulyati, 2013). There are several reasons showing students seemingly do not understand a lesson, namely: they may not have background knowledge of the lesson in particular or in general, and they may have communication issues regarding language being used during the explanation because too high and technical terms can be challenging for students, they may be not interested in the subject being explained because the subject is not relatable, or relevant to their current necessities and situation, the teachers may be unprepared, or other external factors can also take place, such as a disability, stress, hunger, homelessness, family issues or social or/and cultural isolation. The actor currently being highlighted in this study is the potential problem in terms of communication issues, especially those regarding teacher talks during the teacher or lecturer's explanation.

There have been various studies conducted on the topic of teacher talk. First, is a study by Afifah et al. (2017). The study aimed to determine the types of teacher talk utilized by English teachers during classroom interaction and to determine how students viewed teacher talk in the classroom. The population of this study consisted of 162 seventh-grade students; after which were chosen using purposive sampling, 32 students were decided to be taken as the sample. The data was gathered by observation and questionnaire. The results of this study demonstrated that the teacher utilized several types of a teacher speaking while asking questions and providing comments. Regarding the students' perceptions of the teacher's talk, the students agreed that the teacher uses all of the feedback except for ignoring it. Solita et al. (2021) also conducted a study on teacher talk. This study shed light on teacher talk categories and the frequency of teacher talk employed in the classroom. Using a mixed-method approach, this study was conducted in Bengkulu with the data in the form of a documentation video conceiving classroom teacher-student interactions. The result shows that the highest frequency of teacher talk employed in the classroom was *questioning*—around 55.6% and the least employed were *correcting without rejection* and *criticizing student behavior*. This implies that indirect influence was more engaged compared to direct influence. Another study was also conducted by Xiao-

Yan (2006) in a Chinese university regarding the use of teacher talks in the classroom. The study tried to find out variables that have been impacted by the use of teacher talk so that teachers can put advanced portrayals to their talks in the classroom. The results revealed several factors that are influenced; they are learners' opportunity, the provision of comprehensible input for language learners, and meaning negotiation. From those studies presented, it has been found limited research results on the topic of lexico-grammatical analysis in teacher talks. Consequently, this study was aimed at finding out the data of such analysis in teacher talk which is eventually stated as the research novelty presented in this study.

Moreover, this study is considered significant because of two reasons; they are the theoretical and practical reason. Theoretically, the results can later add to the dynamics of lexico-grammatical analysis inter-disciplinarily in its implementation with ELT pedagogy or teaching and learning in general. Practically, the results can be as a knowledge reference for teachers or lecturers to switch their language registers when teaching different levels of learners. Besides, future researchers can also benefit from the results as additional readings in case they have similar research interests as the one spotted in this study. Thus, from the rationale above, the following research question has been formulated: *What is the level of lexical density in teacher talks performed by elementary school teachers and university lecturers? Do they employ different level of density because of different level of learners—young learners and adolescent learners?*

Method

As the objective of this study is to characterize lexical density in teacher talk of elementary schools and university lecturers, the authors employed a qualitative descriptive approach. Specifically speaking, qualitative descriptive usage in this study is seen as a social phenomenon that occurred in classroom engagements. The descriptive qualitative approach promotes the describing process and analyzing phenomena or circumstances (Creswell, 2012).

A descriptive technique was used to seek lexical density and other related issues like the distribution of content words in the introduction section of the thesis proposal written by English graduate students. There were 6 teachers altogether involved as the subjects in this study—three of them were elementary school teachers and the other three are university lecturers. They were recorded for one meeting for each and their teacher talk is presented as the object of this study. The data analysis was going through these steps: selection, categorization, classification, identification, and verification. The lexical density level was determined by using Ure's (1971) lexical density level as shown below.

Table 1. Lexical density level (Ure, 1971)

No	Lexical Density	Percentage
1	≥70%	Very high
2	61-70%	High
3	51-50%	Moderate
4	41-50%	Low

The table above clarifies that if the average percentage of discourse is between the range of 41-50%, it is categorized as low-density discourse, or in other words: the discourse is easy to comprehend. As the average percentage increases, the density is also considered to increase. It is learned that a discourse with 51-50% of lexical density can be moderately understood, and so on (Ure, 1971).

Findings and Discussion

The result of the analysis is provided in the table below. The table provides data from six respondents with certain codes, namely Ele-1 for Elementary school teacher number 1, and so on; and Uni-1 for university lecturer number 1, and so on.

Table 2. Overall results

Subject's Code	Lexical words	Non-Lexical words	Lexical Density	Level (Ure, 1971)	Remark
Ele-1	14	18	43.75%	Low	
Ele-2	18	24	42.85%	Low	
Ele-3	12	17	41.37 %	Low	Low
Total	14.66	19.66	42.65%		
Uni-1	18	22	45%	Low	
Uni-2	16	31	34.04%	Low	
Uni-3	15	33	31.25%	Low	Low
Total	49	86	36.76%		

The table above demonstrates that, at a glance, both levels have a low lexical density in total which are 42.65% for the elementary school level and 36.76% for the university level. This means that they utilized the spoken discourse which is easily understandable by their students. Of all respondents, Ele-2 used the highest density, which is 43.75% on average. This respondent employed 14 lexical words and 18 nonlexical words. Then it is followed by Ele-2 with 42.85% and Ele-3 with 41.37 %, respectively. It is rather explicit that the average elementary school teacher's talk is lexically denser than those employed by university lecturers—*per se* both are categorized as low density. Uni-1 employed 45% of lexical density, which is the highest density of all; she used 18 lexical words and 22 nonlexical words. Uni-2 later followed with a percentage of 34.04%, with the use of 16 lexical words and 31 nonlexical words. Last, the least dense teacher talk is the one performed by Uni-3 with a percentage of 31.25%, with the use of 15 lexical words and 33 nonlexical words. All this makes the average of 36.76% for the university level. This is in line with Ramadhan's (2017) finding stating that in spoken discourse, the lexical density is low when the grammatical intricacy is high; which is the other condition with written discourse. However, this is in contrast with Keumala et al. (2019) who found that teacher talks employed by two teachers in Acehnese high school were highly dense. There the first teacher in Class A was 63.66% and in class, B was 66.52%, while the second teacher in Class A was 71. 74% and in Class B was 68.12%. Despite its high level of lexical density, they see the teacher talks as productive talks which can initiate students' comprehension, creativity, and problem-solving ability.

Below are provided excerpts from the respondents.

Ele-1.17:
"We **need** to **eat healthy food**, okay? OK. **Now** I **want** you to **give** the **paper** and **sit** on your **chair now**. **Here! Done?** Ok, next. You **need** to **think yesterday** that you **see** your **friends**, what did they **eat**? What did they **eat yesterday** at **school lunch**? And **today**, what also do they **eat**? I **call everyone**, **open** your **book**. Ok. **Page** 65, **activity book page** 65. Okay? **Done?** There a **chant**, then **decide** and **write** your **favorite menu** there. Khalid, ok? Please **behave** yourself! I not, **go outside** from **here**. I want you to **write** down your **favorite menu**, is that **healthy** or **unhealthy**? It's **up** to you. I don't **know** your **menu**. Now I **give** you 2 **minutes**. **Do** it!"

Ele-1.17 is the code for elementary teacher number 1, and token number 17. The excerpt above shows that English was used as the delivering language. There are 55 lexical words in the sentences. There were 112 words in total; so that, the lexical density is 49.10%.

Ele-2.24:
"This is a **plane**, okay? Look at this, I **underline** it on the **whiteboard**. The **boys using** is this and the **father reply** is this. You **got** it? So when I **ask** you, what is this? This is a **marker**. What is that? That is a **pen**. Do you **understand**?".

Ele-2.24 is the code for elementary teacher number 2, token number 24. From the excerpt above, it can be seen that English was also used as the delivering language. There are 12 lexical words from the sentence chunks. There were 50 words in total; so the lexical density is 24%. The analysis was not made per sentence as in spoken language; there is no clear partition between one sentence to another. Hence, the analysis was made through chunks produced by the teachers and lecturers.

Ele-3.13:
"You **ask** to **check** the **homework** and then **number** 4 is **good** and would **leave**. **Number** 4 **exercise** 3, if you **ask exercise** 3 because it is your own **opinion**. How many **question circle**? **Exercise** 3, 1, 2, 3, **check**. Did you **answer exercise** 4?"

Ele-3.13 is the code for elementary teacher number 3, token number 13. The excerpt shows that there are 17 lexical words from the sentence chunks. There were 45 words in total; so the lexical density is 37.77%.

Uni-1.102:
"Bukankah itu menjadi **topik utama**? Kenapa? Karena **tembakau** itu **membawa penyakit** yang **mematikan**. **Coba. Coba** ini dulu, **ditelaah**. Mana **kalimat pendukung**? Mana **ide pokok**?"

Uni-1.101 is the code for university lecturer number 1, token number 101. The excerpt shows that the lexical density is 54.16%—which is considered moderate as there are 13 lexical words from the sentence chunks and there were 24 words in total. Indeed, Uni-1 has the highest total percentage of all.

Uni-2.157:

"Tapi **sekarang** aja kita uda bisa **belajar** tanpa **teacher**, ya kan, karena **pandemik**. Jadi kita hanya **belajar** melalui **dunia maya** secara **online**. Bisa jadi **kedepannya** kita, **anak-anak** kita, akan **diajarkan** oleh **robot**. Apa **namanya**? **Artificial Intelligence**. Itu kita **ngomong soal education** sama **technology**-nya. Jadi harus banyak **membaca**. So, this is the **result** from your **speaking skill**. Eeeerrr before I **ask** you to **send video**, when you **record** your **video**, errr I **think** you **put** your **concept** on your **mobile phone**."

Uni-2.157 is the code for university lecturer number 2, token number 157. The excerpt shows that the lexical density is 43.58%—which is considered moderate as there are 34 lexical words from the sentence chunks and there were 78 words in total.

Uni-3.140:

"Iya kan? Nah, **berarti caranya** adalah anda pertama **discuss** tentang ini. **Dibaginya** ya, **dibaginya** langsung ya. Karena nanti di **introductory**-nya ada **caranya**. Ini kita harus **parafrase**, ketika **parafrase**, itu **maksudnya** bagaimana? Gimana? **Parafrase** itu gimana? Apa itu **parafrase**? Okay?"

Uni-2.157 is the code for university lecturer number 2, token number 157. The excerpt shows that the lexical density is 30.76%—which is considered moderate as there are 12 lexical words from the sentence chunks and there were 39 words in total.

From the excerpts provided above, there are two clear actualities. First, the delivering language used in elementary school was English. This school was indeed an international school using the Cambridge curriculum which has a high demand for the learning product. In addition, the use of English as delivering language was compulsory for all teachers and all subjects at this school. Meanwhile, university lecturers, used the Indonesian language as delivering language in their classes, *per se* the major being taught was the English department. Minor code switching and code mixings were employed, though. This was presumably because there is no demand to use English as delivering language in the classroom at that university even though the major is the English department itself. Second, the percentage of lexical density portrayed by elementary school teachers was higher on average compared to that of university lecturers—42.65% for elementary school and 36.76% for university level. This signifies that the spoken discourse used by the elementary teachers was more complex and more difficult to understand than that of university lecturers. Revisiting the level of education, it needs to be thoughtfully considered for university lecturers to employ a bit higher lexical density to their students as implied by Keumala et al. (2019) that higher lexical density has a benefit in initiating comprehension, and critical thinking, as well as creative and solutive thinking. University students are considered to have qualified and mature cognitive ability to process such information from higher lexical discourse. In other words, this condition can be overcome by young learners in elementary school, then adolescent learners at the university will also be able to cope with it, suppose. As Pillow (2008) supports that young learners already have four cognition abilities or knowledge: knowledge of mental states, knowledge of occurrence (of a certain activity), knowledge of the organization, and knowledge

of epistemology which all can be achieved through cognitive and social activities supporting each other, being engaged hand-in-hand. Indeed, adolescent learners bear more than these abilities.

The results that have been discussed above, it amplifies several essential implications that need to be acknowledged in teacher talks, particularly by teachers, lecturers, or teaching instructors in general. Initially, teachers should pay attention to the portion of the talks. More teacher talks lead to teacher-centeredness making students less active in the learning process. Abundant teacher talks in the classroom can decrease students' motivation (Maftoon & Shakouri, 2012; Setiawati, 2012). Harmer (2007) further supports that in an effective learning environment, teacher talks should be lessened and student talks should be expanded. Later, the teacher should improve teaching techniques that are more student-centered involving more questioning which later leads to drilling and exercises. This promotes active learning to some significant degree. Next, the result of this study can increase teachers' awareness of teacher talk produced by them because teacher talks are taken as a model by students (Ismail et al., 2022). Teachers need to be more aware of their classroom discourse since students frequently use it as a model for what they should learn both explicitly and implicitly. Consolidating that teacher talk can provide a positive learning environment, teachers can be more thoughtful and aware of the use of the talk. The benefit of teacher talk is that it can foster a friendly, supportive environment in the classroom, inspire students to come up with more intricate, meaningful activities, and ultimately help them achieve a far better level of course mastery. The teachers get the opportunity to apply the theories they have studied during this phase. Teachers should continue to apply the theories of teaching and learning in the classroom in their proper and decent contexts.

Conclusion

From the result, it is learned that the use of lexical density in teacher talk at a different level of education (elementary school and university level) are both low. It is 42.65% for elementary school and 36.76% for university level. What comes as surprise is the fact that the percentage for elementary school is slightly higher compared to that of university level; this indicates that the language used is denser despite it being targeted at young learners. An important intervening factor is presumably the school itself which is an international elementary school. Higher-level of teaching materials is possibly applied.

This study has both strengths and limitations. The strength is highlighted in the research urgency of studying the lexical density level of teacher talk. It can help teachers understand a possible factor that can bias students' understanding, which is their discourse during the material explanation process. Hence, this can be a good reflecting point for teachers. On the other hand, this study is not without limitations. Since there were only two educational levels involved, the result cannot be moderately generalized. It is expected that teacher talks from another level such as preschool teachers and high school teachers will also be investigated by potential future researchers.

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