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RESEARCH PAPER

A Quantitative Analysis of Linguistic Complexities: A Case Study of English Textbooks of Federal Board of Intermediate and Secondary Education Islamabad, Pakistan

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ABSTRACT

This study aims at exploring linguistic complexity of the English Text Books prescribed by the Federal Board of Intermediate and Secondary Education Islamabad, Pakistan, for intermediate classes. For the last two decades, the concept of linguistic complexity has appealed interest of the linguists and other researchers to investigate this phenomenon. There are several factors that influence linguistic complexity to a tex. The importance of a text in the process of teaching and learning is beyond any doubt, and this significance enhances in the context of the third world countries where teaching and learning is considered almost impossible in absence of textbooks. In this environment selection of a textbook without gauging its linguistic complexity and grammatical intricacy is vulnerable. Two textbooks, Text- A, for first year class, and Text- B, for second year class, were chosen as samples purposefully. To build the edifice of this research Halliday and Ure's lexical density and grammatical intricacy methods were used. The findings reveal that the actual text of Text- A falls in the slab of the more linguistic complexity with an index of 5.1 and Text- B which falls in the category of simple texts with an average index of 4.6, as Halliday and Ure's methods suggest. This paper concludes with recommendations that text book writers and the textbook designers must familiar with th phenomenon of linguistic complexity and grammatical density and before prescribing any text to the ultimate learners, the textbook must be examined and evaluated to measure linguistic complexity

KEYWORDS Complexity, Density, Grammatical, Intricacy, Lexical, Linguistic

Introduction

The importance of a textbook in a classroom is beyond the debate, it occupies centrality along with the teacher. The textbook is instrumental in making the teaching and learning process more effective, it functions as a pathway that provides directions for both the teacher and students as well. The textbook furnishes the learners with already prevailing knowledge in an organized and systematic way and gives the students suitable input. Similarly, it also seconds the teachers in attaining their objectives and aims by offering them well-structured, organized, and planned knowledge. As the textbook is an integral part of the teaching and learning process, examination and analysis of its linguistic characteristics i.e. vocabulary, sentence structures, and other grammatical intricacies will give deep insights into the textbook

to the text developers, policymakers, and curriculum developers, teachers, and textbook writers. Besides many other aspects of textbook analysis like layout, content, price, contextualization of content, outlook, etc. linguistic complexity is also one of the determining aspects that are worth examine as it imparts a greater length to the level of complexity of a text which inspires the reading understanding of students directly. According to (Putra D. A., (2017), students comprehend a text only when the text has a difficulty level that is fitting to their age and grade level.

Theoretical Perspective

Halliday's Systemic Functional Linguistics provides the theoretical framework for this study. One of the recognized linguistic theories is Systemic Functional Linguistics which copes with characteristics of linguistics i.e., social, cultural, and structural topographies, which within a structure are deliberated to be organized. (Bartlett, T., & Grady G., 2017). Systemic Functional Linguistics handles language as a standard that is used to establish meaning in a given context of a particular society (To, V.T., 2015). Systemic Functional Linguistics catalogs language into four groups: lexicogrammar, phonetics and phonology, context, and discourse semantics. To make meaning, phonetics and phonology are considered to be essential linguistic properties. Discourse semantics and rammar manage with context. The class, lexicogrammar, works in many folds, which helps the readers and listeners to perceive he meanings, and they are clause, word, and group (Halliday, M.A.K., 2004). Three meanings perceived at the discourse semantics level are interactive meaning, ideational meaning, and textual meaning (To V.T., 2015).

Halliday offers a number of ranking of classes to divide the number of lexical items. For example, ///*In establishing faith, //the early messengers showed many miracles unimaginable to people of old faiths*/// (Halliday, M.A.K., 2014). This contains one phrase and one clause and eleven lexical items; therefore the lexical density may be computed as:

Lexical density $= 11 \div 2 = 5.5$

Intricacy in grammar is assessed in relation to the average number of ranking clauses per clause complex (Castello E., 2008).

$$GI = \frac{NRC}{NCC}$$

Lexical Density

The fraction of the number of lexical words defines lexical density in a text. Lexical density increases with the usage of lexical words (such as i.e. verbs, nouns, adverbs, and adjectives) in a ranking clause. Ranking clauses are those clauses that have a hypotactic or paratactic relationship; hypotactic clauses are independent and paratactic clauses are called dependent clauses in traditional grammar. Lexis and grammar determine Linguistic complexity in a text. Investigation of linguistic complications in form of lexis is ascertained in relation to grammar and lexical density; it is assessed in terms of higher intricacy. Lexical density is determined by apportioning

the whole number of verbal items by the whole number of ranking clauses (Halliday, M.A.K., 2009).

It can be formed as: $LD = \frac{NLI}{NRC}$

In the light of this method, the traditional lexical density of a written text should fall in the range of 3 and 6. The text is harder if the lexical density index rises above this range (To, V.T., Fan, S., & Thomas, D., 2013).

Ure's Method: $LD = \frac{NLI}{NW} \times 100$

this method reveals, a text is regarded as highly complex when the percentage of lexical density exceeds 40% (To, V.T., 2015).

Grammatical Intricacy

Grammatical intricacy is a process in which ranking clauses are combined practically or hypotactically in a single complex clause, (Halliday, M.A.K., and 2009) it is intended to get a complete linguistic complexity picture. spoken language, but it could of same beneficial in testing the linguistic complexity of the written language too, because it indicates complexity at the level of clauses similar to the word evel the word level (Putra, D.A., and 2017). Halliday opines that intricacy of grammar is measured by only computing ranking clauses combined into every individual clause complex. And it can be calculated as the mean value. Grammatical intricacy is computed by the variance between the two kinds of taxis. Parataxis is supposed to be easier than hypotaxis. (Halliday, M.A.K., 2009). Castello applies an average number of raking clauses per clause complex to compute the intricacy of the grammar. (Castello, E., 2008).

$$GI = \frac{NRC}{NCC}$$

It defines the number of clauses combined together to make a clause complex, and the more the index, the text is taken to be complex(Castello, E., 2008).

Studies on Textbook Evaluation

Beyond any doubt, a textbook is an integral part of the classroom. It gives a guide map for learners as well as teachers. Curriculum design requires a valid and reliable evaluation of textbooks. Kausar et al., (2016) studied to examine the "Intermediate English Book-I (short stories)" one of English textbooks, suggested by the Punjab Textbook Board for the intermediate level. They assessed the English textbook from different aspects i.e. overall view, planning and outlining, linguistic skills, type of language, exercises, and topic and themes, which disclosed that English textbooks do

not fulfill the requirements of the studies of this level. The study inferred that the textbook should be reexamined in light of the demands of English teachers and learners.

Aftab, A., (2011) conducted a study to explore the position of English language textbooks. The study was carried out in various phases by applying a hybrid-method method. The assessment criteria, questionnaire, and checklist mainly specify material development and need analysis of curriculum designing of the curriculum. The research explored that there are many grey areas in overall education. These fallibilities lead to the poor quality of the English language in the country. The researcher opines that the textbooks and policies are inappropiate. There is a serious need for betterment in the development of curriculum. For the textbook writers and teachers, proper and updated training must be arranged. Since the learners of the English language in Pakistan depend on textbooks therefore they must be prescribed carefully.

Mahmood, M.A., et al., (2014) investigated the same issue. Their study aimed at including computer apps to switch the research-related curriculum to scientific grounds. The study employed Computer Lexical Tutor to assess linguistic features, old and new, on lexical and phrase levels. The study indicates that the repetition of lexical items does not attend a cyclic process that leads to an unsteady foundation of the English language at the end of the learners. The study claimed that the abrupt introduction of grammatical structures and new lexical items in textbooks raise the considerable complexity for learners to take a good understanding of the English language.

Studies on Linguistic Complexity

To, V.T., (2018) researched the linguistic density of textbooks to explore the linguistic shift that occurs in the textbooks suggested for teaching English as a foreign language. The research reveals that total texts become complex with advancement in their level. However, the study accentuated linguistic difficulties in detail, taking the text's readability and complexity.

Barrot, J., (2013) investigated lexical and syntactic features, two linguistic components, Findings of the study indicate that when the grading of the students arises up, their reading cognition is also enhanced. It was noticed that lexical cahracteristics play a vital role in the assessment of the readability of a text. It senses that when lexical characteristics of a text are more difficult, such a text appears more problematic to understand and process for the learners. Barrot's study emphasized lexical characteristics of the text for reading in Grade 2, 4, and 6 to examine the text readability. lexical density and grammatical intricacy and other linguistic features i.e. also contribute to text complexity and text readability.

Focusing on science and non-science areas of the book series, V.T., (2015g) examined the changing linguistics complexity level in English Textbooks at four different levels. Contributing elements of rising complexities variance in relation to levels of the different types were also investigated in that study, and it was noted that the complexity of textbooks is in direct proportion to the advancement in level.

D.A., (2017) undertook a study in the context of Indonesia at high-level schools to probe into the progress of the complexity of text in English textbooks. He came up with the conclusion that there is continuous enhancement of text complexity across the grade. Applying Systemic Functional Linguistics as a framework, advancement rate and nature were also dealt with. He was of the opinion that commonly the language of the texts grows more sophisticated.

By using different frameworks and some definitions Juola, P., (2008) studied the same phenomena. On the basis of the findings, languages were called complex, and this complexity varies in syntax and morphology. The researcher emphasized both psychological and mathematical elements of complexity. Complexity is all about the procedure and latent mechanism of cognition. With the help of contrast measures, the working nature of human language can be better understood. Similarly, understanding psycholinguistics can also be instrumental to make better measures.

Studies on Grammatical Intricacy

The most important component that must be taken into consideration in academic writing is lexical density and grammatical intricacy. The study conducted by Syarif, H., (2018) on lexical density and grammatical intricacy aim at exploring how these characteristics affect academic writing of the students. The researcher heaped the data from the introductory section of dissertation and research proposals of the graduate students of Universitas Negeri Padang. It is deduced from their finding and discussion that an appropriate lexical density and grammatical intricacy was found high. It was noticed that lexical density level remained low due to the presence of number of clause complexes. An important correlation was observed between lexical density and grammatical intricacy.

In order to explore the issues taking place in grammatical complications of the descriptive and narrative descriptive texts, Purnomo, M.D., (2016) inquired into English Handbook used in classes IX, VII and VII, in Medan at junior high school. The results of the study indicated that in the narrative texts of all the three levels the percentage of simple sentences were 39.9%,60%, and 50% respectively. Whereas in the narrative texts the percentage of compound sentences were observed at 33.3%,4%, and 16.7% while the complex sentences were 27.8%, 36%, and 33.3% respectively. The percentage of simple sentences in the narrative texts were 25%, 69.2% and 53.8%, and compound structure of the sentences were 31.25%, 15.4% and 21.3%. Complex sentences were used as 43.75%, 15.4% and 23.1%. Therefore grammatically inappropriation happened in the selection of the text.

In linguistic complexity, the role of Grammatical intricacy is one of most influencing factors (Halliday, 2008). This phenomenon requires an exhaustive investigation. As a foreign language, teaching and learning English in higher education textbooks, bringing the issues of linguistic complexity into consideration is highly commendable. To, V.T., (2017) made a probe into the textbooks across different levels in Vietnam at tertiary level to check the grammatical intricacy in a textbook series. Systematic Function Linguistic theory was made base for his theoretical framework. By using Holliday's grammatical intricacy method, in reading comprehension texts of four different level textbooks grammatical intricacy was investigated. Resultantly, the researcher suggested to enhance the grammatical intricacy in the studied texts. A gradual rise in linguistic complexity was eventually supported by the average scores yielded by the grammatical intricacy formula. On contrary to this, in the upper-intermediate test books, no grammatical intricacy was noticed. For the EFL students, grammatical intricacy was found to be adequate and up to their level. The use of simple clauses is affected by lexical density and nominalization like the grammatical features. Therefore, the searcher would suggest a further research to explore the linguistic complexity in this regard too. (To,V., 2015h).

In pursuance of the suggestion of the previous research, this current study has been undertaken to fill the niche proposed by it. This research explores the linguistic complexity of some selected English texts at intermediate prescribed by the federal board in Pakistan.

Data Collection and Analysis Procedures

Phase-I

As determining linguistic complexities of English textbooks of HSSC level is the main objective of the research, the below phases have been carried out to reach at the objectives of the research:

As the first step, codified both the books. Textbook "Intermediate English for Class- XII" was marked as "Text-A", and "English Grade-XI" was marked as "Text-B". Later on, the chosen texts from Text-A were numbered as Tex-A/1, Text-A/2 up to Text-A/14 and the selected texts from Text-B were marked as Tex-B/1, Text-B/2 up to Text-B/10.

Secondly, the rationalization of the selected texts Text-A and Text-B, have been made by using substitutes and sentence division techniques. In replacement, hard and unfamiliar words have been swapped with familiar and simple words. Under the sentence division technique, complex sentences and compound sentences have been replaced with simple sentences. Non-defining integrated clauses were removed. Thirdly, by using a readability consensus calculator the total numbers of clause complexes, lexical items and words were computed. Finaly, ranking clauses were separated, and then lexical items were computed physically and accumulated by applying spreadsheet.

Phase-II

To check the linguistic hardness and grammatical difficulty level Halliday's and Ure's methods have been used on the selected texts "Text-A/1 to Text-A/14" and Text-B/1 to Text-B/10".Ure's method of lexical density is used to measure the difficulty of text at word level. Whereas, method examines the clause level difficulty, and the grammatical intricacy level assesses the text at the sentence level.

$$\text{Halliday's method: LD} = \frac{\text{NLI}}{\text{NRC}}$$

It proposes that an ideal density level of a text should be between 3 and 6. It is supposed to be harder if the index of lexical density climbs greater (To, V.T., 2013).

$$\text{Ure's Method : LD} = \frac{\text{NLI}}{\text{NW}} \times 100$$

Ure's formula of lexical density indicates a text to be highly complex when the lexical density percentage crosses 40% (To, V.T., 2015g).

Average number of ranking clauses per clause complex determines the grammatical intricacy(Castello, E., 2009).

$$\text{Grammatical Intricacy (GI)} = \frac{\text{NRC}}{\text{NCC}}$$

Conclusions were made by considering the average numbers produced by the method complexity proposed by Halliday and Ure.

Results and Discussion

Data Analysis

Linguistic Complexity

The calculation of lexical density has been kept at the forefront to measure linguistic complexity. The researcher has applied Halliday and Ure's methods to assess the lexical density of the texts. Which suggest to compute lexical density by the ratio of word items per a ranking clause in clause complexes. According to Ure, lexical density is determined by the proportion of lexical elements to total words in the chosen text.

The relationship between paratactic in clause complexes has been defined to calculate grammatical intricacy. Secondly, manual calculation was made to define the number ranking clauses and the number of lexical items in clause complexes. Halliday's method calculates the grammatical intricacy by proportion of ranking clauses per clause complex. The present research has added only ranking clauses, with hypotactic or Paratactic relationship in analyzing grammatical intricacy. Fixed clauses have not been added in the analysis of intricacy of grammar as they are not termed complete ranking clauses. but they are often considered as part of a ranking clause.

Text Analysis

Texts	Total words		Clause Complexes		Ranking Clauses		Lexical Items	
	Original	Simplified	Original	Simplified	Original	Simplified	Original	Simplified
Text-A/1	1038	726	74	64	94	89	444	302
Text-A/2	1377	1007	49	60	119	93	618	455
Text-A/3	1540	1000	76	62	140	102	781	484
Text-A/4	891	661	37	45	63	65	430	322
Text-A/5	1114	876	102	63	93	94	505	421
Text-A/6	1386	1117	106	107	172	155	643	519
Text-A/7	605	439	27	31	56	57	289	215
Text-A/8	2694	1835	154	146	295	227	1165	837
Text-A/9	1235	704	75	58	98	69	655	394
Text-A/10	1005	567	65	47	99	65	510	323
Text-A/11	1311	939	48	60	98	84	621	468
Text-A/12	1360	946	93	84	132	104	709	527
Text-A/13	3720	2735	106	181	584	359	2201	1323
Text-A/14	3696	3657	56	195	546	393	2471	1663
Text-B/1	1041	726	74	64	94	89	444	302
Text-B/2	773	484	52	37	75	49	362	231
Text-B/3	1592	1126	119	97	185	142	809	591
Text-B/4	920	628	35	41	67	53	469	320
Text-B/5	1203	847	95	73	160	127	545	393
Text-B/6	1328	947	63	69	150	116	627	44
Text-B/7	1932	1079	159	106	253	158	873	492
Text-B/8	565	439	41	41	69	60	241	196
Text-B/9	1361	938	128	90	161	139	572	397

Text-B/10	1164	836	66	73	157	117	461	342

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Texts	Halliday's Lexical Density				Ure's Lexical Density				Grammatical Intricacy			
	Original		Simplified		Original		Simplified		Original		Simplified	
Text-A/1	444 ÷ 94	4.72	302÷ 89	3.39	444 ÷1038 ×100	42.7	302÷726	41.5	94 ÷ 74	1.2	89 ÷ 64	1.3
Text-A/2	618 ÷ 119	5.1	455 ÷ 93	4.8	618÷1377 ×100	44.8	455 ÷ 1007×100	45.1	119 ÷ 49	2.4	93 ÷ 60	1.5
Text-A/3	781 ÷ 140	5.57	484 ÷ 102	4.74	781÷ 1540×100	50.71	484÷ 1000×100	48.4	140 ÷ 76	1.8	102 ÷ 62	1.6
Text-A/4	430 ÷ 63	6.82	322 ÷ 65	4.95	430÷ 891 ×100	48.26	322÷ 661× 100	48.71	63 ÷ 37	1.7	65 ÷ 45	1.4
Text-A/5	505 ÷ 93	5.4	421÷ 94	4.4	505÷ 111 4×100	45.3	421÷ 876× 100	48.0	93 ÷ 102	0.9	94 ÷ 63	1.4
Text-A/6	643 ÷ 172	3.7	519 ÷ 155	3.3	643÷ 1386 ×100	46.3	519 ÷1117 ×100	46.4	172 ÷ 106	1.6	155 ÷ 107	1.4
Text-A/7	289÷ 56	5.1	215÷ 57	3.7	289 ÷ 605×100	47.7	215÷ 439 ×100	48.9	56 ÷ 27	2.0	57÷ 31	1.8
Text-A/8	1165 ÷ 295	3.9	837 ÷ 146	5.7	1165÷269 4×100	42.9	837÷ 1835×100	45.6	295 ÷ 154	1.9	227 ÷ 146	1.5
Text-A/9	655 ÷ 98	6.6	394÷ 69	5.7	655÷ 1235 ×100	53.0	394÷ 704 ×100	55.9	98÷ 75	1.3	69÷ 58	1.1
Text-A/10	510÷ 99	5.1	323 ÷ 65	4.9	510÷ 1005 ×100	50.7	323÷ 567× 100	56.9	99 ÷ 65	1.5	65÷ 47	1.3
Text-A/11	621÷ 98	6.3	468 ÷ 84	5.5	621÷ 1311 ×100	47.5	468÷ 939× 100	49.8	98 ÷ 48	2.0	84÷ 60	1.4
Text-A/12	709÷ 132	5.3	527÷ 104	5.0	709÷ 1360 ×100	52.1	527÷ 946× 100	55.7	132÷ 93	1.4	104 ÷ 84	1.2
Text-A/13	2201 ÷584	3.7	1323÷35 9	3.6	2201÷372 0×100	59.1	1323÷ 2735×100	48.3	584÷106	5.5	359 ÷181	1.9
Text-A/14	2471 ÷546	4.5	1663÷39 3	4.2	2471÷369 6×100	66.8	1663÷3657 ×100	45.4	546 ÷56	9.7	393 ÷ 195	2.0
Text-B/1	444 ÷ 94	4.7	302 ÷ 89	3.3	444÷1041 ×100	42.7	302÷ 726×100	41.5	94 ÷74	1.2	89÷ 64	1.3
Text-B/2	362 ÷75	4.8	231 ÷49	4.7	362÷ 773× 100	46.8	231÷ 484×100	47.7	75 ÷ 52	1.4	49÷ 37	1.3
Text-B/3	809 ÷185	4.3	591 ÷142	4.1	809÷ 1592 ×100	50.8	591÷ 1126× 100	52.4	185÷ 11 9	1.5	142 ÷ 97	1.4
Text-B/4	469 ÷67	7.0	320 ÷53	6.0	469÷ 920× 100	50.9	320÷ 628×100	50.9	67÷ 35	1.9	53÷ 41	1.2

Text-B/5	545÷ 160	3.4	393÷127	3.0	545÷ 1203 ×100	45.3	393÷ 847×100	46.3	160 ÷ 95	1.6	127÷73	1.7
Text-B/6	627 ÷150	4.1	447 ÷116	3.8	627÷ 1328 ×100	47.2	447÷ 947×100	47.2	150÷ 63	2.3	116 ÷ 69	1.6
Text-B/7	873÷ 253	3.4	492÷158	3.1	873÷ 1932 ×100	45.1	492÷ 1079× 100	45.5	253÷ 159	1.5	158÷ 106	1.4
Text-B/8	241÷ 69	3.4	196÷60	3.2	241÷ 565× 100	42.6	196÷ 439×100	44.6	69÷ 41	1.6	60 ÷ 41	1.4
Text-B/9	572 ÷161	3.5	397÷139	2.8	572÷ 1361 ×100	42.0	397÷ 938×100	42.3	161 ÷ 128	1.2	139÷ 90	1.5
Text-B/10	461 ÷157	2.9	342 ÷117	2.9	461÷ 1164 ×100	39.6	342÷ 836×100	40.9	157 ÷ 66	2.3	117÷ 73	1.6

This study aimed at probing into the linguistic hardness in terms of density of lexical words and intricacy of the grammar of the chosen English Textbooks of the HSSC level. 14 texts were picked out of 8 chapters from Text-A. Dialogues and poems were not made part of this study as the recognition of racking clauses was problematic for the researcher. Spoken language is used in dialogues and poems which is also difficult to determine the boundary of the clause; therefore this study mainly focuses on written texts.

Qualitative analysis of the chosen texts indicates that the language of the original text of Text-A is harder than a text with a lexical density index of 5.1, as the method of Halliday suggests. A mean lexical density index of 50.6% shows a text as highly complex according to Ure's lexical density method. Because when the lexical density index of a text rises above 40%, it is declared to be very complex. Halliday's lexical density method defines the language of the simplified text of Text-A to be simple with a mean index of 4.6. On the other hand, it is considered to be highly complex with a mean index of 48.9% resulting from Ure's lexical density method; but it is of low complexity as compared to the actual text.

The analysis discovers that with a mean grammatical intricacy index of 2.5 the language of the actual text of Text-A is more complex whereas with a 1.5 mean grammatical intricacy index, the simplified text of Text-A is less intricate. It is noticed that the lexical density index is 5.1 therefore, overall the text is difficult as yielded by Halliday's lexical density formula. In addition, Ure's lexical density index also goes higher than 40%; and the grammatical intricacy index shows it is complicated, as in the summary table given below in table 5.1.

10 texts were purposefully taken from Text-B out of 7 chapters. Quantitative analysis of the actual text of Text-B indicates that language applied in Text-B is not complicated with the mean lexical density index of 4.2 measured by Halliday's lexical density formula, whereas it is observed to be highly convoluted with a mean index of 45.3% given by Ure's lexical density formula.

The analysis denoted that the language of the simplified and easy text of Text-B is simple with Halliday's mean lexical density index of 3.7, but it also has been assessed as highly difficult with a 45% mean lexical density index by Ure's lexical density formula. Moreover, grammatical intricacy analysis reports that the language applied in the actual text of Text-B is harder than simplified content as the mean grammatical complexity index of the actual text is 1.7 and it is 1.4 for the simplified text given in the following summary table 5.1:

Conclusions

The Findings suggests that Halliday's method determines that with an average lexical density index of 5.1 the overall actual text of Text-A is more complicated with an average lexical density index of 5.1 as compared to simplified text with a lexical average density index of 4.6. Hence, Ure's method reveals, both, simplified and original, texts as highly complicated with average lexical density indexes of 50.6% and 48.9 %

Summary of lexical density and grammatical intricacy of Text-A

	Original Text			Simplified Text		
Text	**HLD**	**ULD**	**GI**	**HLD**	**ULD**	**GI**
Text-A/1	4.7	42.7	1.2	3.39	41.5	1.3
Text-A/2	5.1	44.8	2.4	4.8	45.1	1.5
Text-A/3	5.6	50.7	1.8	4.7	48.4	1.6
Text-A/4	6.8	48.3	1.7	4.9	48.7	1.4
Text-A/5	4.5	45.3	0.9	4.4	48	1.4
Text-A/6	3.7	46.3	1.6	3.3	46.4	1.4
Text-A/7	5.1	47.7	2	3.7	48.9	1.8
Text-A/8	3.9	42.9	1.9	5.7	45.6	1.5
Text-A/9	6.6	53	1.3	5.7	55.9	1.1
Text-A/10	5.1	50.7	1.5	4.9	56.9	1.35
Text-A/11	6.3	57.5	2	5.5	49.8	1.4
Text-A/12	5.3	52.1	1.4	5	55.7	1.2
Text-A/13	3.7	59.9	5.5	3.6	48.3	1.9
Text-A/14	4.5	66.8	9.7	4.2	45.4	2
Sum	**70.9**	**708.7**	**34.9**	**63.8**	**684.6**	**20.9**
Average	**5.1**	**50.6**	**2.5**	**4.6**	**48.9**	**1.5**

Summary of lexical density and grammatical intricacy of Text-B

	Original Text			Simplified Text		
Text	**HLD**	**ULD**	**GI**	**HLD**	**ULD**	**GI**
Text-B/1	4.7	42.7	1.2	3.3	41.5	1.3
Text-B/2	4.8	46.8	1.4	4.7	47.7	1.3
Text-B/3	4.3	50.8	1.5	4.1	52.4	1.4
Text-B/4	7.0	50.9	1.9	6	50.9	1.2
Text-B/5	3.4	45.3	1.6	3	46.3	1.7
Text-B/6	4.1	47.2	2.3	3.8	47.2	1.6
Text-B/7	3.4	45.1	1.5	3.1	45.5	1.4
Text-B/8	3.4	42.6	1.6	3.2	44.6	1.4
Text-B/9	3.5	42	1.2	2.8	42.3	1.5
Text-B/10	2.9	39.6	2.3	2.9	40.9	1.6
Sum	**41.5**	**453**	**16.5**	**36.9**	**459.3**	**14.4**
Average	**4.2**	**45.3**	**1.7**	**3.7**	**45.9**	**1.4**

respectively. The actual text is determined to be more complex with an average intricacy index of 2.5 and simplified text is measured to be less complex with an average intricacy index of 1.5.

Halliday's method has shown the actual text of Text-B is more complex with an average lexical density index of 4.2 compared to simplified text which has reared average lexical density of 3.7. Moreover, Ure's method explains both the texts as highly complicated with a lexical density index of 45.3% for the actual text and 45.9% for a simplified text. Grammatical intricacy calculations show that the average intricacy index of the actual text is 1.7 and simplified text is 1.4 which denotes the original text is more complex and intricate.

Recommendations

The role of a textbook in a classroom can never be overlooked. Assessment and evaluation of textbooks from different perspectives and angles may lead to furnishing the students and instructors with an appropriate textbook for a particular stage. Among the other important standpoints i.e. planning and outline, exercises, language proficiency, language skills, level of the language, type of language, theme and topics, content and form, and price and overall outlook , linguistic complexity is also an unavoidable aspect of English textbooks. The following recommendations are proposed on the basis of the findings of the current study,

- Syllabus designers Curriculum developers must be familiar with this important phenomenon of linguistic complexity in textbooks.

- For textbook writers and teachers, training programs on "linguistic complexity of textbooks" must be conducted.
- Before prescribing it to the ultimate learners, textbook must be examined and evaluated to measure linguistic complexity. Choice of adequate textbooks may not only minimize the difficulty of learners in grasping an English text but it may also help the learners in establishing a good comprehension and amplifying their interest in reading English texts.

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