English-Arabic Translator Education Through Systemic Functional Linguistics: Analysis of Cohesive Devices in Investopedia Business Texts

Reem Fahad Alshalan[1], Hesham Suleiman Alyousef[2]*

[1]*College of Languages and Translation, King Saud University, Riyadh, Saudi Arabia*

[2]*Department of English Language & Literature, Faculty of Arts, King Saud University, Riyadh, Saudi Arabia*

Corresponding Author: Hesham Suleiman Alyousef, E-mail: hesham@ksu.edu.sa

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ABSTRACT

In translation courses, students are asked to practice translation skills by translating a source text (ST) in a specific field. While teachers usually select texts based on topic and language accuracy, some such texts do not provide rich textual features that help students practice and improve their translation skills. This study aimed to analyze the cohesive features in business texts collected from "Investopedia" to investigate their suitability for use as STs to practice translation skills in the field of finance and administration. It was framed by Halliday's (1978) systemic functional linguistics (SFL) approach to language and Halliday and Hassan's (1976) cohesion analysis scheme. The findings demonstrated that the most prominent type used was lexical cohesion, followed by reference and conjunctions. Ellipses and substitution were rarely used. The findings indicated that the intensive use of lexical cohesion and the various subcategories used in these texts can help enrich the background knowledge of financial terminology and provide a communicative understanding of the ST while practicing various elements of textual features. The study provided a demonstration of the significance of SFL in providing coherent and cohesive STs that facilitate the needs of translation instructors and students in the field of finance and administration. Other SFL tools can be employed to provide a better understanding of these texts.

Key words: Source Text (ST), Systemic Functional Linguistics (SFL), Cohesion Analysis, Textual Cohesive Devices, Lexical Cohesion, Substitution And Ellipsis, Reference, Conjunction

INTRODUCTION

Systemic functional linguistics (SFL) views language as a system rather than a structure, and it examines meaning beyond grammar, which is evident in cohesion analysis (Martin, 2016). Cohesion is part of the textual metafunction and involves nonstructural relations above the sentence level (Martin, 2001). Halliday and Hassan (1976) identified five types of cohesive devices which are substitution, ellipses, lexical cohesion, reference, and conjunctions. These cohesive devices are achieved through grammatical and lexical words. Whereas reference, substitution and ellipses are expressed through grammar, lexical cohesion is expressed through meaning (or lexis), and conjunctions are both grammatical and lexical (Alyousef, 2020).

Textual cohesion is an essential linguistic element in translation studies, as meanings are communicated coherently and cohesively in both the source (or original) text (ST) and the target (translated) text (TT). Studies have investigated students' translations for textual coherence and found that their errors negatively affected the communicative purpose of their texts (Al-Qinai, 2000; Khany, 2014; Kostopoulou,

2007; Lotfipour-Saedi, 1997). Therefore, students are encouraged to practice their translations through exposure to authentic material with rich cohesive and coherent features.

Moreover, students practicing translations in the field of finance and administration are expected to practice their translations and enrich their background knowledge of financial and administrative terms. To be able to translate an ST accurately and communicatively into a TT, they are expected to read and understand the nature of the financial and administrative environment. Moreover, students taking this translation course often ask for practice material that introduces the terms in the field and comprises a rich textual resource for practice. The instructors responsible for the translation course in the field of finance and administration are required to provide course material by selecting texts for students to translate in each class. Media reports or financial websites are used to collect relevant texts for practice both in and out of class. However, some STs are not valid for practice due to the ambiguity of their message and audience (Shore, 2001; Wang & Guo, 2014). They are judged based on topic and error-free language features only and not for their semantic coherence (Jun, 2018) or their lexical cohesion

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(Khany, 2014; Kostopoulou, 2007; Lotfipour-Saedi, 1997). Furthermore, some translation instructors do not investigate STs thoroughly, which can lead to less accurate translation (Al-Qinai, 2000).

The present study aimed to investigate the significance of SFL in providing coherent and cohesive STs that facilitate the needs of translation instructors and students in the field of finance and administration. This study may provide instructors and students with material to be used in translation classrooms and for translation training in the field of finance and administration. Also, it may provide a sample of how analyzing texts for cohesive devices can help instructors and students choose suitable texts for translation practice. The corpus included authentic material collected from a financial education website called Investopedia , which is powered by a team of data scientists and financial experts. The present study is pertinent since it aims to analyze the cohesive devices in these texts so that the findings may inform educators and translators alike. It is part of a wider research project on the use of the linguistic tools of SFL in translator education.

LITERATURE REVIEW

Wang and Guo (2014) argue, paraphrasing Halliday and Hasan (1976), that discourse coherence is achieved when a text is consistent with its specific context and when a text's elements are connected by cohesive devices. These devices significantly contribute to the readability of a text and, therefore, to the quality of translation. As Bystrova-McIntyre (2012, p. 63) notes, "cohesion is an important factor in text comprehension, and is thus of strong relevance to translation studies." Wang and Guo (2014) highlighted the importance of interpreting the conveyed message of discourse by students in addition to analyzing its linguistic features (Wang & Guo, 2014). Several studies (Al-Qinai, 2000; Khany, 2014; Kostopoulou, 2007; Lotfipour-Saedi, 1997) have demonstrated that one of the aspects that enhances translators' work is knowledge of textual cohesive features.

As translation students are expected to interpret the implied message of a text, they need to analyze it for cohesive linguistic devices (Kostopoulou, 2007). Acknowledging the importance of a communicative text-linguistic approach to the study of texts and their theoretical and methodological problems in translation, Kostopoulou (2007) emphasized the importance of using textual coherence in the translation process. The researcher argued that there is a strong interconnection between text linguistics, translation, and cognition, following De Beaugrande's (1999) argument that the text must be described as both a product and process. The implications suggest that teachers of translation courses need to consider coherence to assist translator trainees in enhancing their extralinguistic knowledge and in using their prior knowledge during the comprehension and decoding phase of the translation process (Kostopoulou, 2007).

Al-Qinai (2000), who attempted to assess the quality of translated texts, stated that the role of the ST should be considered the information core. Translators should be assessed on how they convey the communicative message and structural features of the ST by analytically investigating the ST

to achieve the same effect in the target language (Al-Qinai, 2000). Lotfipour-Saedi (1997) explored lexical cohesion in a ST and then defined the notion of translation equivalence in the TT. He emphasized the importance of analyzing the ST for lexical coherence by identifying several steps before allocating the translation equivalent. He concluded that translators need to determine the main lexical chains, describe the semantic relations between the nodes, determine the inter-node distance by the number of intervening words, and determine the degree to which the chain members are embedded in the text. Another study by Khany (2014) examined the relationship between knowledge of Lexical Cohesion Patterns (LCPs) and translations of English texts. LCPs included lexical repetition, synonymy, antonymy, super-ordinate repetition, hyponymic repetition, coreference, labeling, non-lexical relations, and substitution. The results demonstrated a significant positive relationship between the two variables. The findings indicated that the development of language proficiency, which affects students' mastering of LCPs, will develop their performance in translation. According to Vula (2020) having background knowledge of the grammar of both the ST and the TT is essential in achieving a coherent translation. Vula investigated the usage of cohesive devices in English-Albanian translation and concluded that analyzing a source text for cohesive devices and understanding their usage facilitates a more accurate TT.

Manan and Raslee (2018) and Behbahani, Jabbari, and Farahani (2018) quantitatively investigated the effect on ESL learners of teaching explicit cohesive devices and found that it improved their writing mostly in terms of content and language. Both studies demonstrated how exposing students to cohesive devices improves their language abilities, which, in turn, improves their communicative understanding of a text before they translate it. Jun (2018) highlighted the importance of semantic coherence in translation studies and concluded that the translator must focus on communicating the meaning without making major changes to the thematic order unless doing so affects the message conveyed. Although this study focused on thematic progression, it emphasized the importance of thoroughly investigating semantic coherence in the ST before attempting to translate it.

Alyousef and Alnasser (2015a, 2015b) employed a systemic functional multimodal discourse analysis of cohesive devices to investigate tertiary multimodal finance and management accounting texts written by international postgraduate business students. Their findings demonstrated that lexical cohesion, and specifically repetition, formed the largest percentage of use followed by reference. Conjunctions, substitution, and ellipses were rarely used. Both studies suggest that students need to be exposed to these features in business classes to familiarize them with their use through authentic material. As Saudi translation students are expected to understand web-based finance and administration texts, it is pertinent to investigate the salient cohesive devices in Investopedia texts since they facilitate comprehension of the message within its context of use, which in turn retrieves a more accurate TT.

Regarding the selection of material used for translation students, teachers tend to select authentic material from

websites. Schiller (2006, 2008) investigated how challenging it can be to translate multimodal websites, particularly in terms of cohesion, due to the features of a website. It was highlighted how a website comprises a multimodal text with visual and written elements. The written elements take many forms such as continuous text, HTML text, or hypertext, which can be grouped into a cohesive unit. Translators need to be aware of the type of text they are translating on a website and the many elements that support the written texts. This demonstrates the importance of investigating the material taken from websites before using them for translation practice.

Shore (2001) highlighted some common problems in selecting appropriate assignments for translation courses. She stated that teachers tend to assign translation tasks that do not have a clear and specific audience. She mentioned that in real-life situations, the purpose and audience are clearly identified and that teachers should prepare students for such situations.

The review of related literature has emphasized the importance of investigating STs for use as practice or assignments in translation courses. It sheds light on the importance of the ST from the first step of selecting the appropriate type of text from websites and selecting material that has a clear message and audience, to analyzing it for its semantic coherence. It highlighted that discourse coherence can be analyzed by viewing a text as a product and a process by analyzing it for linguistic textual devices in addition to comprehending the implied relevance of a message with its context of use.

METHODOLOGY

Research Design

Following Halliday and Hasan's (1976) and Halliday's (2014) Systemic Functional Linguistics-based cohesion analysis scheme, this study followed a qualitative research design with descriptive quantifying measures to count frequencies and percentages of the occurrence of each cohesive device and the subcategories mentioned in the data.

Material

The English texts were selected from an authentic financial education website, Investopedia is a non-Web 2.0 (read and write) website that can be edited like Wikipedia. Investopedia is powered by a team of data scientists and financial experts. This study investigated 40 definitions of finance terms in 40 texts (Table 1).

Each text comprised approximately 500 words, and it defined a financial term with examples and further discussion. The total corpus contained approximately 20,000 words. The level of language used in the texts ranged from intermediate to advanced.

Data Analysis Tools

The data analysis tools used for this study comprised the five cohesive devices identified by Halliday and Hasan (1976):

reference, substitution, ellipses, lexical cohesion, and conjunctions. The five categories and sub-categories were manually annotated. The study aimed to investigate the use of cohesive ties that join the text together and make it coherent (Halliday, 2014). Furthermore, such cohesive devices were selected for this study because they can be investigated from a semantic and grammatical perspective. According to Halliday (2014), lexical cohesion is expressed through lexis, while reference, ellipses, and substitution are expressed through grammar. Conjunctions are primarily investigated through grammar, but they can also be investigated through lexis in terms of systems and lexical selection. Therefore, investigating the data through the five cohesive devices would support the aim of this study in investigating the semantic and grammatical textual metafunction of the texts. Halliday's (2014) cohesion analysis scheme was also utilized in this study due to his updated and detailed information on these cohesive devices, supported by examples of each category and cohesive tie. A brief overview of the five cohesive devices is summarized next.

Lexical cohesion refers to lexical words that include repetition, synonyms, hypernyms, hyponyms, meronyms, and antonyms. They are investigated through the semantic meaning of these lexical words. Reference can be defined through personal pronouns such as "he," "they," and "them," and through possessive pronouns such as "their," "his," and "her." They can also be expressed through demonstratives that include the definite article "the" or the demonstratives "this," "that," "these," "those," or adverbs such as "here," "there," "now," and "then." Reference also includes comparative adjectives and adverbs such as "better," "equally," and "likewise." Conjunctives are elements that connect sentences, except for coordinators and subordinators, which Halliday and Hassan (1976) consider structural. According to Halliday (2014), there are three broad categories of conjunction: elaboration, extension, and enhancement. Elaboration includes appositives (expository such as "in other words" and "that is," and exemplifying such as "for example"), and clarifying conjunctions (corrective, distractive, dismissive, particularizing, resumptive, summative, and verificative such as "in short," "actually"). Extension includes additive (positive or negative), adversative, and variation devices (replacive, subtractive, and alternative such as "instead," "except," and "on the other hand"). Enhancement includes matter (positive and negative), manner (comparative and means), temporal (simple and complex), and causal-conditional such as "otherwise," "next," "then," and "soon." Substitution and ellipses are similar in terms of having a missing element, be it nominal, verbal, or clausal. The difference between them is that substitution replaces the missing element whereas ellipsis leaves it blank (Halliday, 2014; Halliday & Hasan, 1976).

Validity

Following Mackey and Gass (2016), three aspects of validity were considered: face validity, content validity, and construct validity. Face validity was tested by the general appeal of the scheme, which appears to analyze what it is

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Table 1. Topics of the texts analyzed (data)

1. Finance	11. Financial Sector	21. Financial Plan	31. Financial CHOICE Act
2. Financialization	12. Financial Asset	22. Financial Repression	32. Financial Action Task Force (FATF)
3. Finance Charge	13. Financial Crimes Enforcement Network – FinCEN	23. Financial Statement Analysis	33. Financial Accounting
4. Financial Adviser	14. Financial Engineering	24. Financial Structure	34. Financial Accounting Standards Board – FASB
5. Financial Cooperative	15. Financial Forensics	25. Financial Therapy	35. Financial Holding Company (FHC)
6. Financial Crisis	16. Financial Health	26. Financial Statements	36. Financial Shenanigans
7. Financial Guarantee	17. Financial Institution – FI	27. Financial Quota Share	37. Financial Risk Manager- FRM
8. Financing Entity	18. Financial Literacy	28. Financial Intermediary	38. Financial Planning Association
9. Financial Analysis	19. Financial Instrument	29. Financial Inclusion	39. Financial Conduct Authority (UK) - FCA
10. Financial Exposure	20. Financial Modeling	30. Financial Distress	40. Financial Industry Regulatory Authority-FINRA

meant to analyze, which is to analyze the data for cohesive devices. Content validity was achieved by following Halliday and Hasan's (1976) and Halliday's (2014) cohesion analysis schemes, which focused on categorizing cohesive devices and providing detailed information and examples. To ensure construct validity, the percentages for the frequency of occurrence of each cohesive device per the total instances of cohesive devices were calculated following Alyousef and Alnasser (2015a, 2015b). The sub-total number of occurrences of each cohesive device was divided by the total number of occurrences of cohesive devices overall and this number was then multiplied by 100.

Reliability

Reliability was achieved by investigating repeatability and reproducibility (Allen & Knight, 2009). To ensure repeatability, the researcher piloted the analysis by analyzing a sample (500 words) and after a week, the same sample was reanalyzed using the same scheme to ensure there were no differences in the frequencies and percentages. Regarding reproducibility, the other researcher assessed the same sample using the same scheme to ensure no differences were noted.

FINDINGS AND DISCUSSION

The data were analyzed for cohesion through cohesive devices following Halliday's (2014) and Halliday and Hasan's (1976) cohesion analysis schemes (reference, substitution, ellipses, lexical cohesion, and conjunction). All five cohesive devices were found in the data with different proportions of occurrence. Table 2 shows that the most prominent type of cohesive device was lexical cohesion (58.8%), followed by reference (27.1%) and conjunctions (13.5%).

The least used cohesive devices were ellipses (0.5%) and substitution (0.1%). The most prominent cohesive device used in the data is discussed next.

Table 2. Frequency and percentage of cohesive devices

Cohesive Device	Frequency	Percentage
Lexical Cohesion	3793	58.8
Reference	1749	27.1
Conjunctions	873	13.5
Ellipses	33	0.5
Substitution	7	0.1
Total	6455	100

Lexical Cohesion

Table 3 shows that repetition was the most frequently used subcategory (34.8%). The content words that were repeated correspond to financial concepts. The most repeated word was "financial," at 684 times in the text. Other financial concepts like "company," "investment," "asset," "insurance," "business," "service," "accounting," and "risks" were repeated more than 50 times each throughout the text.

The text included many financial synonyms such as "money," "economics," and "investment," or synonyms related to financial concepts such as "securities," "stocks," "bonds," and "shares." A total of 732 synonyms were mentioned in the text. There were also 196 hypernyms and 784 occurrences of hyponyms such as "money" as a hypernym, and "cash," "asset," and "capital" as hyponyms. Meronyms (at 14%) were also used to express words that are part of a whole, such as "sector" as a part of "business, transaction," "finance," "credit cards," "life insurance," "health insurance," "mortgage," and "retirement products" for personal finance. The least frequent subcategory of lexical cohesion was hypernyms at 5.1%, most of which were related to finance such as "money" and "payment."

The repetition of financial terminology, the use of synonyms, hypernyms, hyponyms, and meronyms, and the use of antonyms have all contributed to making the text a specialist one. The high frequency of lexical cohesion provides

Table 3. Frequency and percentages of lexical cohesion sub-categories

Sub-category	Examples	Frequency	Percentage
Repetition	Financial (684), Company (100), Investment (84), Asset (81), Finance (79), Insurance (64), Business (62), Service (58), Accounting (54), Risk (53)	1319	34.8
Hyponym	Bank (111), College (4), Jail (2), Company (100), Establishment (1), Foundation (2), Law (9)/ Cash (47), Capital (35), Credit card (8), Asset (81), / Job (5), Investment (84), Profession (18), Publishing (1), Services (58), Trade (13), Venture (2), Work (23), / Annual (5), Month (8), Day (5), Hour (4), Lifetime (1), Quarter (11), / August (1), February (1), January (2), July (4), June (3), March (2)/ Big (1), Large (15), Mass (1)/ Chicago (1), Paris (3), Washington (1)/ Fee (6), Taxes (17), Credit (45)/ Advisors (4), Brokers (30), Accountants (2), Insurance agents (3), Financial planners (4).	784	20.7
Synonym	Finance (79), Money (43), Economic (26), Investment (84), / Company (100), Business (62), Firm (30), Corporation (6), / Profit (31), Revenue (20), Income (36), Return (16), / Organization (23), Institution (39), Association (11), Party (5), / Employee (3), Worker (1), / Securities (29), Stock (15), Share (47), Bond (26).	732	19.3
Meronym	Sector (44) > Business Transaction (26) > Finance Credit cards (8), Life insurance (4), Health insurance (1) and Home insurance (1), Mortgage (19) and Retirement products (1), Insurance agents (3), Personal banking (1) > Personal finance Management of money (1), Creation of money (1) and Study of money (1), Banking (1), Credit (45), Investments (84), Assets (81), Liabilities (14), Equity (26), Accounting (54) > Financial systems Growth of banking (1), Asset management (1), Insurance (64), and Venture capital (1) > Financial sector, Cash (47) > Funds	530	14
Antonym	Higher (6) / Lower (21), Guarantee (33)/ Uncertainty (1), Purchase (14)/ Sell (18), Ensure (8)/ Deny (1), Rational (6)/ Irrational (1), Recession (6)/ Inflation (4), Loss (31)/ Gain (15), Growth (20)/ Reduction (3), Conceal (1)/ Exposure (20), Saving (17)/ Spending (6)	232	6.1
Hypernym	Institution (39), Money (43), Business (62), Period (17), Month (8), Volume (2), City (1), Payment (20), Financial advisors (4)	196	5.1
TOTAL		3793	100

evidence that the text can enrich the reader's vocabulary in the field of finance. According to Khany (2014), there is a positive correlation between knowledge of lexical cohesion patterns and translation proficiency. Since the lexical cohesion of this text is varied and higher than most of the conjunctions used, it could be a helpful source for improving translation skills.

Reference

Reference is the second most frequent cohesive device used in this text, at 27.1%. The subcategories of reference used in the text were personal (pronouns and possessives), demonstratives, and comparatives. Table 4 demonstrates that the most prominent type used was the definite demonstrative reference (74.8%).

The deictic article "the" occurred 1024 times throughout the text. Other definite demonstratives were "this," "that," "these," and "those." The pronouns used were "you," "they," "them," "it," and "he," while the possessives used were "one," "their," "his," and "its." Comparative adjectives were used at a rate of 3.5%. Personal pronouns were used only in anaphoric elements corresponding to 7%.

The findings support the purpose of the text in providing additional information for the terminology expressed. The extensive use of the definite article "the" demonstrates that the information provided is definite and has been mentioned and identified. This is also supported by the other types of demonstrative that explain specific near and far information throughout the text. Besides, personal pronouns serve to distance the writer from the ideas expressed since the writers

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Table 4. Frequency and percentages of reference sub-categories

Sub-category	Type of tie	Examples	Frequency	Percentage
Demonstratives	Definite	The (1024) This (59) That (170) These (45) Those (11)	1309	74.8
Personal	Pronouns	You (7) They (47) Them (10) It (68) He (7)	139	8
	Anaphoric	(they-it-he)	122	7.0
	Possessives	One's (5) Their (55) His (5) Its (53)	118	6.7
Comparatives		(er) (21) More (40)	61	3.5
TOTAL			1749	27.1

did not refer to themselves using "I," "we," "us" or even "my," "mine," or "our." The anaphoric relation was the only type used because the text is explaining the concepts to the reader and refers to elements discussed previously, rather than relying on the reader's knowledge by using cataphoric elements referring to referents later in the text, or cataphoric elements referring to situations not mentioned in the text. This feature also provides evidence that the text is a written form. The objectivity of the references, the definite elements, and the anaphoric relations expressed support the purpose of the text in providing specific information in an explanatory objective style.

Conjunctions

Table 5 shows that the data included all three subcategories of conjunction following Halliday (2014), which are elaboration, extension, and enhancement. The most prominent conjunction used throughout the text was the extending additive (positive) conjunction "and," which comprised 88% of occurrences. The remaining 12% of conjunctions were allocated to extending adversative conjunctions such as "but," "however," "on the other hand," and "yet," which occurred in 3.8% of instances, followed by elaboration exemplifying appositive devices expressed by the words "for example" and "for instance," and enhancement positive matter conjunctions expressed by "there," both of which occurred in 2.7% of instances.

The elaborating expository appositive expression "that is" occurred 11 times, at a proportion of 1.2%. The conjunctions "next" and "then" were used in 0.6% of instances to express simple temporal ties of the following conditions. One enhancement conjunction used for causal conditional ties was used in 0.2% of instances with the conjunction "otherwise." The least frequently used conjunctions were elaboration conjunctions used for clarification through corrective, particularizing, and verification ("at least" and "actually")

and temporal conjunctions used for simple conclusive (e.g., "finally") and complex interruptive (e.g., "soon"), which occurred only once each at a proportion of 0.1%.

The conjunction "and" comprises an extending conjunction used for positive additive ties. It extends the meaning of what has been mentioned previously and provides additional information. It is positive because it provides supporting details that do not neglect or contrast with the previous proposition (Halliday, 2014). The extensive use of "and" supports the purpose of the text in providing additional information regarding the financial terms explained. It extends the definitions to include different ideas, examples, and clarifications of the concepts and ideas expressed. Using the conjunction "and" in STs for translation purposes has a positive effect in providing additional information to help translation students understand the meaning of the text before beginning to translate it. This is in line with Al-Qinai (2000), who emphasized the importance of the ST as the information core that translators use to achieve maximum effectiveness. This finding also corresponds to Kostopoulou's (2007) argument that textual coherence in STs helps students understand the meaning communicatively before it is translated.

Ellipses

Ellipsis was the second least frequently used cohesive device. Table 6 shows that ellipses occurred only 33 times at a proportion of 0.5%. The only type used was the nominal type expressed through deictic and numerative ties. The words "these" and "more" were the only ones used.

The rare use of ellipses supports the function of a text in providing detailed information and explanation about the terms defined. The words "these" and "more" are ellipses of the forms "these ones" and "more ones." Although "these" and "more" comprise ellipses, they are more commonly used nowadays than the original forms, even in formal writing (Halliday & Hasan, 1976). According to Halliday and Hasan

Table 5. Frequency and percentages of conjunctive devices sub-categories

Sub-category	Type of tie	Sub-type of tie	Examples	Frequency	Percentage
Extension	additive	positive	And (648) Furthermore (2) Also (64)	764	88
	adversative		But (16) Yet (1) On the other hand (1) However (16)	34	3.8
Elaboration	appositive	expository	That is	11	1.2
		exemplifying	For example (18) For instance (6)	24	2.7
	clarification	corrective	At least (1)	1	0.1
		particularizing	In particular (1)	1	0.1
		verification	Actually (1)	1	0.1
Enhancement	matter	positive	There (24)	24	2.7
	manner	comparative	Likewise (3)	3	0.3
Temporal	simple	following	Next (2) Then (4)	6	0.6
		conclusive	Finally (1)	1	0.1
	complex	interruptive	Soon (1)	1	0.1
Causal-conditional	conditional	negative	Otherwise (2)	2	0.2
TOTAL				873	100

Table 6. Frequency and percentages of ellipses

Cohesive device	Sub-category	Type of tie	Examples	Frequency	Percentage
Ellipses	Nominal	Numerative	More	25	75.8
		Deictic	These	8	24.2
TOTAL				33	100

(1976), ellipsis is a way of saying that something is understood without saying it. Therefore, the non-elliptical format used in this text demonstrates how the format tends to be informative in mentioning details about the topic discussed.

Substitution

The least used cohesive device in the data comprised substitution. Although substitution demonstrated a lower frequency than ellipsis, the distinction between them was minor because "ellipses is substitution by zero" (Halliday & Hasan, 1976, p. 142). The substitution used in these data was of the nominal type because it substituted the nominal head in a nominal group. This was expressed by the word "one," which occurred six times, and the plural form "ones," which occurred just once as shown in Table 7. For example:

"Personal Finance is a very personal activity that depends largely on one's earnings, living requirements and individual goals and desires."

"The FPA has regional chapters that facilitate personal interaction among financial planners, and student chapters at universities connect future financial planners with ones already working in the field."

In both situations, the word one in its singular and plural forms is used to substitute the nominal head in the respective sentences. In the first example, "one" replaces "a person" and in the second, it replaces "financial planners." In both examples, the substitution agrees with the head in number, which, according to Halliday and Hasan (1976), is not a strict condition.

Substitution does not carry any additional meaning other than mentioning that what has been substituted was previously mentioned in the text with a differential function (Halliday & Hasan, 1976). It differs here from reference because substitution considers grammatical wording, whereas reference considers meaning. The differential function emphasizes an element from what has been mentioned. In the second example above, the plural form of "ones" substitutes "financial planners" and differentiates them from ones already working in the field. The substitutions in the data help to emphasize ideas by differentiating them from what has been mentioned previously. The exclusive use of "one" and "ones" corresponds to the formality of the written text.

The findings (Table 8) demonstrate that all the cohesive devices were used in the text. Lexical cohesion occurred most frequently, particularly in repetition, followed by reference, conjunctions, and finally ellipses and substitution.

This order of cohesive devices was found in studies of postgraduate students' writings in an accounting course (Alyousef, 2020) and finance and management accounting

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Table 7. Frequency and percentages of substitution instances

Cohesive device	Sub-category	Examples	Frequency	Percentage
Substitution	Nominal	One (6) ones (1)	7	100
TOTAL			7	100

Table 8. Summary of the frequencies and percentages of use of cohesive devices

Cohesive Device	Sub-category	Type of tie	Sub-type of tie	Frequency	Percentage
Lexical Cohesion	Repetition		-	1319	34.8
	Hyponym		-	784	20.7
	Synonym		-	732	19.3
	Meronym		-	530	14
	Antonym		-	232	6.1
	Hypernym		-	196	5.1
	TOTAL			3793	58.8
Reference	Demonstratives	Definite		1309	74.8
	Personal	Pronouns		139	8
	Anaphoric	(they-it-he)		122	7.0
		Possessives		118	6.7
	Comparatives	-		61	3.5
		TOTAL		1749	27.1
	Extension	additive	positive	764	88
		adversative	-	34	3.8
Conjunctions	Elaboration	appositive	expository	11	1.2
		-	exemplifying	24	2.7
		clarification	corrective	1	0.1
		-	particularizing	1	0.1
		-	verification	1	0.1
	Enhancement	matter	positive	24	2.7
		manner	comparative	3	0.3
		Temporal: simple	following	6	0.6
		-	conclusive	1	0.1
		Temporal: complex	interruptive	1	0.1
		Causal: conditional	negative	2	0.2
		TOTAL		873	13.5
Ellipses	Nominal	Numerative		25	75.8
		Deictic		8	24.2
		TOTAL		33	0.5
Substitution	Nominal	-		7	100
		TOTAL		7	0.1
TOTAL NO. OF COHESIVE DEVICES				6455	100

courses (Alyousef & Alnasser, 2015a, 2015b). The researchers suggested that students need to be exposed to these features in business classes to familiarize them with their use through authentic material. The situation of translation in the field of finance is similar, in that students need to enrich their background knowledge on financial concepts and better grasp cohesive features and their semantic and grammatical role in the ST before translating it to the target language.

CONCLUSION AND IMPLICATIONS

This study aimed to investigate the significance of SFL in providing cohesive finance and administration texts that are suitable for use as STs in translation courses. The texts were collected from Investopedia and the findings indicated that they are full of textual features that covered all the categories of cohesive devices that hold texts together and make them coherent. The repetition of finance key terms would help accustom students to this terminology, which,

in turn, will help them practice their translation skills in the field. The different subcategories of lexical cohesion (e.g., synonyms and hyponyms) enhance students' vocabulary and background knowledge in the field of finance. Despite the various types of conjunction used, the most prominent type was "and." The use of conjunctions and particularly the extensive use of "and" supports the explanatory style of the text and its purpose in providing information and a detailed explanation of the concepts presented in the text. The frequent use of deictic demonstratives, particularly the definite "the," provides evidence of the specific information provided. The objectivity in pronoun use and the scarce use of ellipses and substitution patterns support the formality and objectivity of the text.

The present study provided a demonstration of the significance of SFL in providing coherent and cohesive STs that facilitate the needs of translation instructors and students in the field of finance and administration. Translation tutors need to take into consideration the use of textual cohesive devices when selecting texts. One of the limitations of this study is that it focused on just one aspect of textual metafunction, the use of cohesive devices. Further studies can explore these texts in terms of theme and information structure. Such an investigation will provide pedagogical implications for students. Further studies can compare the use of cohesion in Investopedia texts and their Arabic translations to reveal the differences.

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