



The Semantics of Sentence Connectors in Reading Comprehension in Pakistani English Textbooks

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Abstract

The objective of the current research is to examine the semantics of sentence connectors in reading comprehension. To achieve this objective and answer the research questions both qualitative and quantitative data was collected for the research. The sample for the current research was two textbooks from Cambridge 'O' and 'A' levels. For this purpose, a corpus of 20 reading passages was developed. To investigate the sentence connectors in selected passages Halliday and Hassan model (1976) of grammatical cohesion was applied as a theoretical framework. The findings of the current research reveal that both the textbooks have utilized sentence connectors frequently, but the overall ratio of all sentence connectors' categories is more frequent in 'A' levels textbooks while 'O' levels textbooks have utilized various temporal connectors instead. Each word-category of sentence connectors executed specific semantic functions within a text to create more cohesive ties. This research may serve the purpose to bring more researchers into this field. The findings and methodology will be helpful for teachers in teaching reading comprehension.

Keywords: sentence connectors, reading comprehension, textbooks, semantics, grammatical cohesion

1. Introduction

Reading is a part of our academic as well as daily lives. It is performed both for pleasure and information. That's why it is a lifelong skill to be used both at school and throughout life. According to Anderson, Hiebert, Scott and Wilkinson (1985), reading is a basic life skill. It is the cornerstone for a child's success in school and in life. Many Theorists have come up with a variety of definitions of reading, but linguists interpret the concept of reading in varied contexts. They viewed reading as a method for comprehending the precise and original meaning of the text. To define the word 'reading', Smith (2004), stated that to read constructively and creatively relies on four characteristics: purposefulness, selection, anticipation, and understanding. Reading with reference to understanding defined by Hedgcock and Ferris (2009) that a reader's comprehension of a piece of writing is based on the cognitive processes and tactics they employ while reading. In the favor of this view Brown and Yule (2010), stated that reading involves more than just learning the meanings of words in a text; it also entails figuring out how to apply those meanings logically in context with one another. In this way readers become able to logically connect the meanings with the context. To develop the coherent and logical relationship between sentences, Halliday and Hassan (1976), introduced the term sentence connectors to figure out the logical relationship between words and meaning. They stated that a connection is a particular instance of cohesiveness that includes sentence connectors. So, the readability, wholeness, and the connections between sentences are all determined by the text's degree of cohesion. It becomes an important factor to consider while crafting a text. In this way, cohesion refers to the relationship between elements that are semantically linked (Tamunobelega, 2018). The goal of cohesion is to make the material more understandable to the reader and also develop the ability to link one part of a piece of writing with another in a way that aids comprehension. As a result, connectors play a vital role in reading comprehension because they supply readers and learners with an essential linguistic expertise for decoding the content of a text.

1.1 Purpose of the Research

The purpose of the current research is to develop the awareness among language teachers and students to learn and enhance the reading comprehension skills by using Halliday and Hassan (1976) grammatical cohesion model. It focuses on the semantic role of sentence connectors with regard to temporal, additive, casual and adversative relationships among these aspects of sentence connectors being used in the text. The objectives can be further divided into:

1. The present research aims to find out the semantic role of sentence connectors in reading comprehension passages.
2. The current research aims to explore persisting sentence connectors behind the content and their extent of making the text coherent.

1.2 Research Questions

The current research answers the following questions:

- Q 1. How frequent sentence connectors are used in the passage for reading comprehension of 'O' and 'A' levels textbook?
- Q 2. What kind of semantic functions are performed by sentence connectors in the text?
- Q 3. How sentence connectors are helpful to develop coherence in the text?

2. Research Methodology

The sample for this study was two textbooks from Cambridge O and A level. For this purpose, a corpus of 20 randomly selected reading passages was developed. In order to add it in AntConc software, the chosen text was converted into a plain text file. The following corpora books were used for the current research. See the details in table 1.



Table 1. Details of Data Collection

Book Name	Author Name	Publisher	Level	Total Chapters	Total Passage
English Language Course book	Helen Toner and John Reynolds	Cambridge	O' Level	12	10
First Language English	Jane Arredondo	Cambridge	A' Level	8	10

To find out the usage of sentence connectors, Halliday and Hassan (1976) model of grammatical cohesion was applied on the randomly selected paragraphs from the textbooks. The demonstration of this model presented in the following diagram.

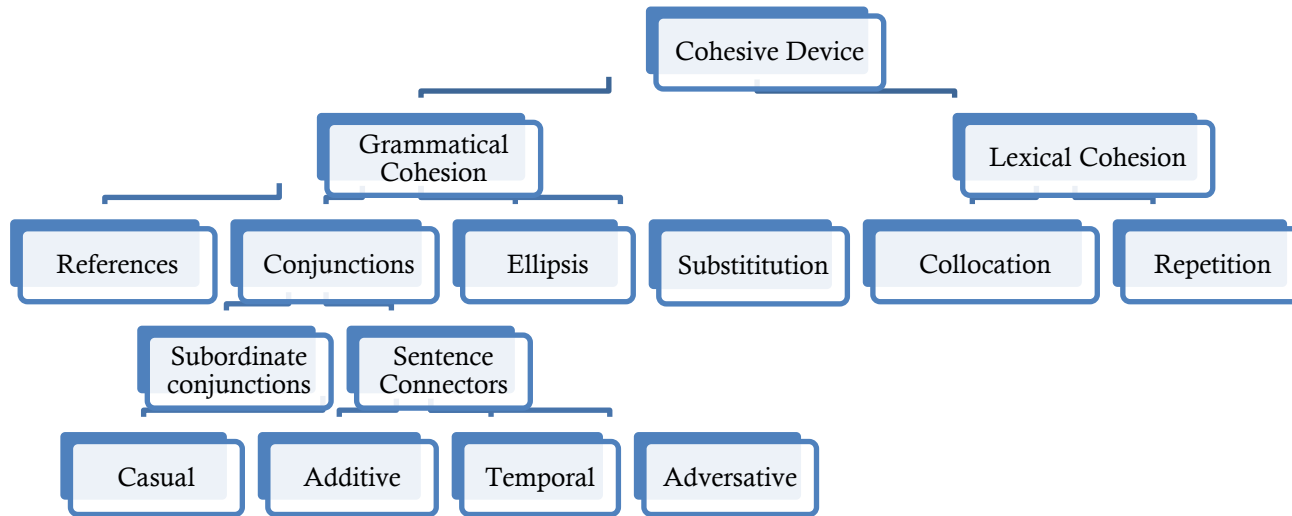


Figure 1. Grammatical Cohesion Model

They categorized the taxonomy of cohesive devices in two levels. The first category is grammatical cohesion that consists on reference relations that ear ellipsis, substitutions, and conjunctions. The second category is lexical cohesion that consists on collocation and repetition. Furthermore, Halliday and Hassan divided these concerned categories in four basic types according to their place at sentence level. The sub-types are conjunctions, subordinating conjunctions, sentence connectors (transitions), and prepositions. As per the model, they introduced five sentence connector’s categories such as casual, additive, adversative, temporal and conditional which perform various function within a text. These four categories of sentence connectors occur as a subordinate conjunction coordinate conjunctions and sentence transistors (connectors) in a text.

Further, this analysis interrogates the sentence connectors in reading passages just to locate the internal relationship between sentences and clause which create meaningful and coherent text of reading passage. The semantic linkages that exist between clauses and sentences were further classified by Halliday and Hasan (1976) into one of three groups based on their position inside the sentence. The list of words of each category mentioned in the table 2, 3, 4 and 5.

Table 2. Word List of Casual Connectors

Subordinating Conjunctions	Coordinating Conjunctions	Sentence connectors (Transitions)
because since now that as long as so that in order that due to the fact that	so for yet nor but	therefore consequently as a result hence thus

Table 3. Word List of Temporal Connectors

Subordinating Conjunctions	Sentence Connectors (Transitions)
until after when once whenever	afterwards meanwhile beforehand finally to conclude lastly in conclusion secondly firstly eventually later subsequently next

Table 4. Word List of Additional Connectors

Subordinating conjunctions	Coordinating Conjunctions	Sentence Connectors (Transitions)
as the same as	and both either neither	moreover in addition alternatively in fact in particular to illustrate besides specifically in other words

		furthermore also likewise
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Table 5. Word List of Adversative Connectors

Subordinating conjunctions	Coordinating Conjunctions	Sentence Connectors (Transitions)
even though although while whereas	but anyway yet	however nevertheless on the other hand though admittedly of course

According to the above mention table 2, 3, 4 and 5, the following research randomly selected the types of words from the grammatical cohesion model by Halliday and Hassan to investigate the semantic relation between sentences and clauses to keenly observe the phenomena of cohesiveness in the passage of reading comprehension. The analysis of selected word lists executed through AntConc software by applied on 20 reading passages corpora. After getting the frequencies of selected word lists from AntConc software, then the interpretation of the semantic functionality of each word category explained qualitatively.

3. Results

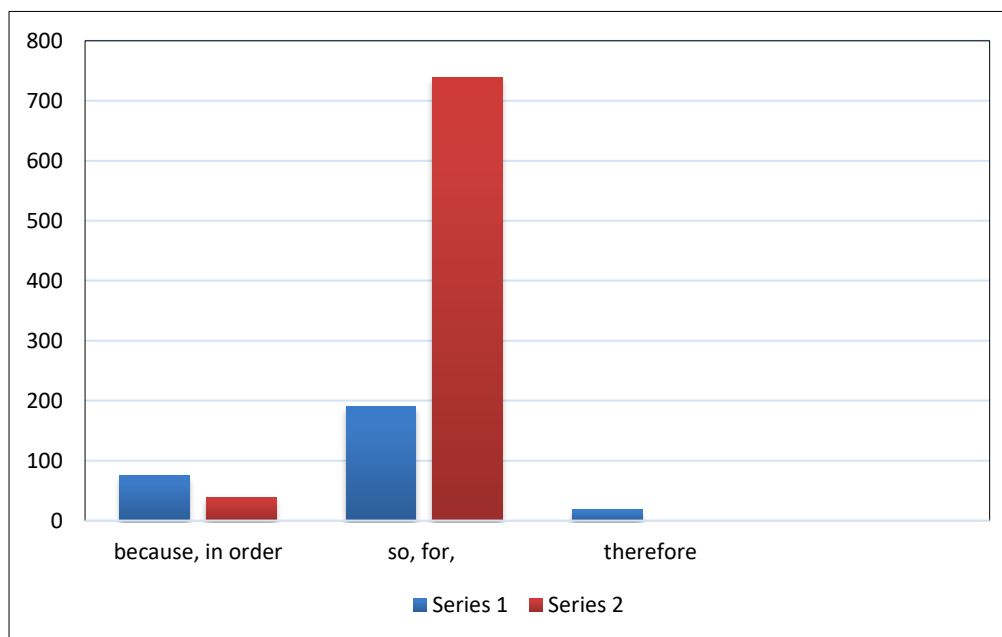
3.1 Analysis of Cambridge ‘O’ Level Textbook “English Language”

The analysis of semantic relations of selected reading comprehension passages demonstrated in the following table 6.

Table 6. Instances of casual connectors (Cause & Effect; Reason & Purpose)

Cambridge O’ Level “English Language” Course Book					
Subordinate Conjunction	Frequency	Coordinate Conjunction	Frequency	Sentence Transistor (Connectors)	Frequency
because	75	So	190	therefore	18
now that	06	for	739	thus	03
so that	24	yet	11	as a result	05
in order that	39	nor	11	for this purpose	01
as long as	05	but	286	furthermore	02

Graph 1. Representation of casual connectors’ percentage



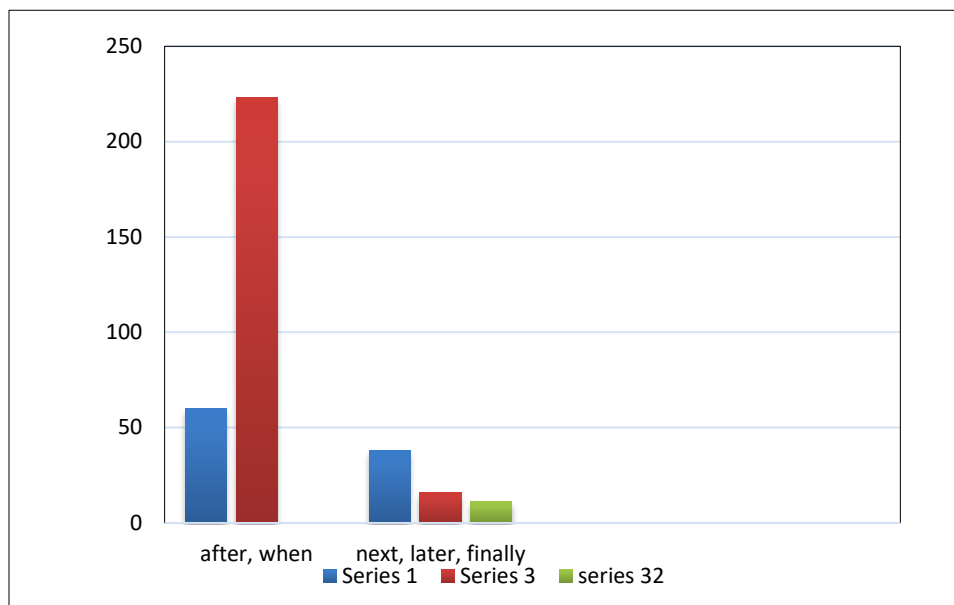
3.1.1 Casual Connectors

The table no 7 and graphs demonstrated the frequency of all selected semantic relations. According to above table, in causal connectors the sub-ordinate conjunction “because” and “in order that” occur frequently with high frequency of 75times and 39 times in reading comprehension. The purpose may be to develop more cohesiveness in paragraphs. But coordinating conjunction that is “for” and “but” are higher than sub-ordinate conjunction in reading passages. Moreover, the usage of transistors in reading passages is rare because of the ratio of selective signal words that is lower than sub-ordinate and coordinate conjunctions. Thus, the function of casual connectors in reading comprehension is to develop more specific and general level of casual relationship between the clauses and sentences by using different words. As shown in table, every word category of casual connectors performs certain function such as general, specific, conditional and respective. The word “because” perform general function in passage to understand the general meaning of the text. Other words “as a result” and “for this purpose” perform specific functions which relate particular meaning to an individual and situation in the text to clearly state the particular direction of author stance. The word “therefore” and “thus” defines causal relationship between clauses and sentences. So, the casual connectors as subordinate and coordinate conjunctions are mostly utilized to connect words, phrases and clauses to make discourse more comprehensive and the usage of transistors develop the reading flow of the reader more smoothly.

Table 7. Instances of Temporal Connectors

Cambridge O’ Level “English Language” Course Book			
Subordinate Conjunction	Frequency	Sentence Transistors (Connectors)	Frequency
until	15	afterwards	03
after	60	eventually	06
once	18	next	38
whenever	04	later	16
when	223	finally	11

Graph 2. Representation of Temporal connectors's percentage



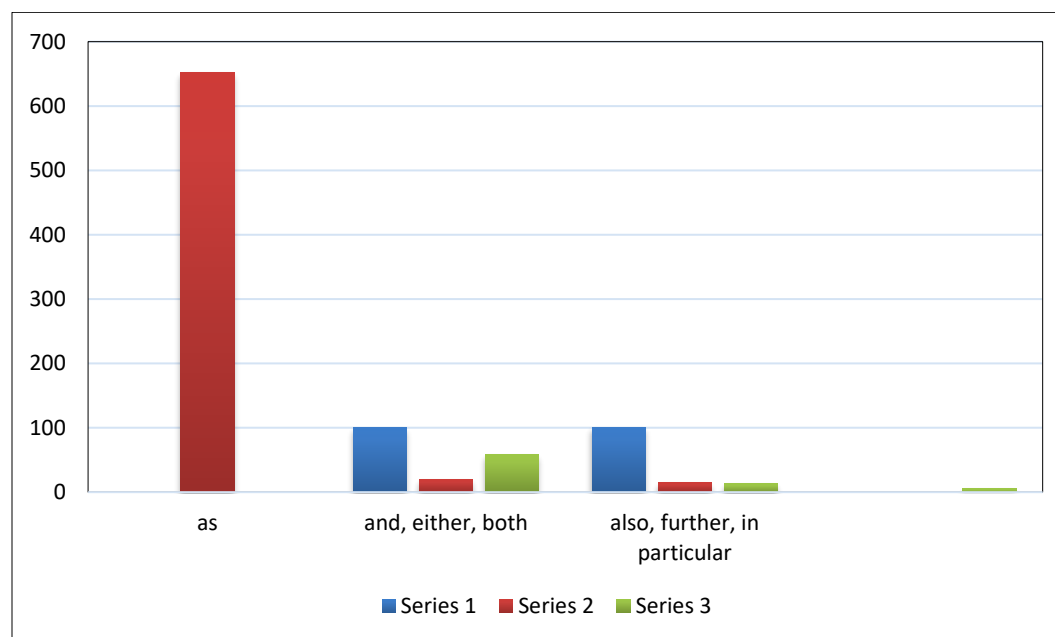
3.1.2 Temporal Connectors

As per the table no 8 and graphs, the occurrences of temporal subordinate conjunction “after” and “when” are high with the frequency of 60 times and 223 times in reading passages. In reading passages, mostly the temporal sub ordinate conjunctions and sentence connectors utilized to make the whole discourse unified to connect clauses and sentences. The significance of temporal connectors is to define the readers, show the direction of writes thoughts effectively by relating the sequence of time in the text. Temporal connectors perform different function in a text such as, simple, complex, conclusive, sequential and summary. The words “afterwards” and “then” perform simple function within the text to simply define the direction of being in the next and succeeding time in the passage. The other words “next” and “firstly” performs sequential function in a text by arranging thoughts and contents of the writer in a sequence. The words “once” and “until” performs complex temporal function to define the happening of any event. The word “finally” preforms conclusive function which elaborates the author finishing content direction by using word such as “finally”, briefly”, “in short” etc. So, in this way readers become more involved to pursue their reading with full of interest by knowing the clear direction of author thoughts.

Table 8. Instances of Additional Connectors

Cambridge O' Level “English Language” Course Book					
Subordinate Conjunction	Frequency	Coordinate Conjunction	Frequency	Sentence Transistor (Connectors)	Frequency
as	652	and	100	in addition	06
the same as	04	both	58	further	15
		either	20	also	101
		neither	05	in fact	06
				in particular	13
				moreover	03

Graph 3. Representation of Additional Connectors' Percentage



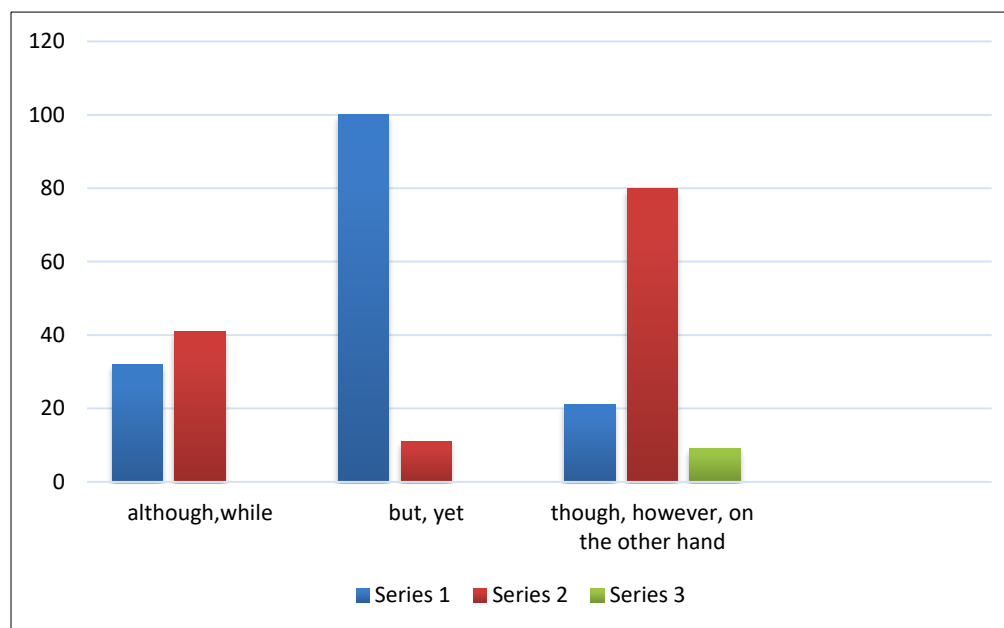
3.1.3 Additional Connectors

According to table 8 and graphs, the sub-ordinate, coordinate and sentence connectors are effectively utilized in the reading passage to make it more comprehensive. The more frequent sub-ordinate “as” the coordinate “and” and the sentence connector “also” further” are used in paragraphs. The function of additional connectors is to just connect the ideas, concepts as well as words and sentences to make a bridge between writer and readers. Halliday and Hassan (1976) stated that the additional sentence connector performs four functions in a text such as simple, complex emphatic, comparative and appositive. The usage of word “and”, “either” and “nor” develop simple sense of additional information in a text, but on the other hand, the words “further”, “moreover” and “in addition” performs complex emphatic function to elaborate that something extra exists or adds in to the information of the text. The words “in particular” and “in fact” create appositive connection between clauses and sentences that is used to reveal some truth and highlight the real and particular facts about anything in a text. So, additive connectors built semantic relationships in the text by using these words. Hence, the understanding of these connectors make students able to understand the original and factual message of writers which they present secretly by using different words to develop various discourse structures to convey their message to the readers.

Table 9. Instances of Adversative Connectors (Opposition or Contrastive)

Cambridge O' Level "English Language" Course Book					
Subordinate Conjunction	Frequency	Coordinate Conjunction	Frequency	Sentence Transistor (Connectors)	Frequency
even though	04	but	100	however	80
although	32	anyway	04	nevertheless	08
while	41	yet	11	though	21
whereas	04			on the other hand	09
				admittedly	02
				of course	13

Graph 4. Representation of Adversative Connectors' Percentage



3.1.4 Adversative Connectors

In the passages for reading comprehension, adversative connectors are utilized to develop the opposition of concepts. As shown in table no 10 and graphs the words “while” and “although” as subordinate conjunctions were occurred 32 times and 41 times in passages whereas the word “but” occurs 100 times as coordinate conjunction and the connectors “however”, “though” and “on the other hand” were used frequently as sentence connectors to develop opposing ideas for readers by creating comparison and contrast between the ideas by using different words to connect sentences and clauses effectively. Adversative connectors perform four basic functions in a text for instance, proper, contrastive, corrective and dismissive. As shown in table 10, the words “yet”, “but” and “however” are used to perform proper function of opposition of ideas in the passage. The phrase “on the other hand” executes contrastive function because it presents contrastive statements and to produce some different point of view in a text. The words “anyway” and “instead” represent the corrective function of adversative connectors and it is used to support and confirm any idea and also used to change the subject matter of the text. So, through adversative connector’s learners become able to understand the opposition of different ideas by identifying these words.

Text Examples

The position of selected sub-ordinate, coordinate conjunctions and sentence connectors at sentence initial and non-initial position are represented in the following table 10.

Text Examples

The position of selected sub-ordinate, coordinate conjunctions and sentence connectors at sentence initial and non-initial position are represented in the following table 10.

Table 10. Representations of Casual Connectors (Sentence Level)

Causal Connectors	Sentence Initial Position	Sentence Non- Initial Position
Sub-ordinate Conjunctions		
because	<ol style="list-style-type: none"> Because at boarding school whenever I was lonely, Lenals . . . coming home. Because of the context within the narrative, the reader . . . is unsure. 	<ol style="list-style-type: none"> Lucea people started to demonstrate because Lena’s people came out in the . . . Lena. A new frontier, it seemed so apt because that’s what I’m facing now . . . vegetarianism.
in order to	<ol style="list-style-type: none"> In order to make your argument convincing it is important that . . . topic carefully. In order to persuade you to share their points of view, skilful writers . . . influence you. 	<ol style="list-style-type: none"> In particular, they will try to influence readers in a . . . or connotations in order to produce an emotional rather than a strictly logical response. Skilled writers will . . . forward in order to make their argument more convincing.
Co-ordinate Conjunctions		
so	<ol style="list-style-type: none"> So many people dismiss vegetarianism as if . . . not quite right in the head. So, you should keep walking up this road and . . . or third turning. 	<ol style="list-style-type: none"> The crossroads are very busy so you should watch the traffic carefully. I didn’t know Lena had so many words in her head.
for	<ol style="list-style-type: none"> For the report to be helpful, . . . the question provides. For the rest 15 Lark Sye (both now demolished) 	<ol style="list-style-type: none"> Kapugedera put on 55 for the sixth wicket with Milinda Siriwardana . . . overs. These old reactionaries and their like will now be out in force, barracking for the supremacy of man, . . . unequal.
but	<ol style="list-style-type: none"> But the White wall and the green door stood out quite distinctly. But the Government’s plans are a long way from achieving this. 	<ol style="list-style-type: none"> Our courtyard was enclosed by high walls which separated us from the neighbours, but the noises still penetrated across, . . . exploded. It’s not me, but the Framingham Heart Study the world’s longest ongoing . . . six years.
Sentence Connectors	<ol style="list-style-type: none"> Therefore, in order for the reader to be 	<ol style="list-style-type: none"> When writing to inform, remember that . . . it

therefore	able to understand appropriate details.	is, therefore , advisable to adopt an impersonal, objective tone. 2. Each paragraph should, therefore , lead into the your argument.
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Table 11. Representations of Temporal Connectors (Sentence Level)

Temporal Connectors	Sentence Initial Position	Sentence Non- Initial Position
Sub-Ordinate Conjunctions	1. When I sit down to write a book, I do not say to myself, 'I am going to produce a work of art'.	1. 'Are you sure that you still had it on when you came away from the ball?' he asked.
when	2. When I think back, that teacher set the example for the other children.	2. We Operate No reservations are necessary when you travel with Greyhound
after	3. After a long time she came back up to the beach and she had a lot of little shells in her hand. 4. After a great interval of time he became aware that he was near the lower edge of the snow.	3. He came to himself with himself loose and, after a rest or so, out until he saw the stars. 4. We caught tadpoles after the rainy days which we took to school for our science class
once	5. Once it has been marked and handed back to you, then it is important 6. Once my sister passed on to me a die-cast coach and horses.	5. I have faith because so many people, who might once have mocked vegetarianism, 6. It does not matter which form of speech marks you choose to use, but once you have decided,
sentence connectors	7. Next day they took the box which had held the necklace and went to the jewelers whose name was inside.	9. One day you're a foreigner, the next you have to learn to be English.
Next	8. Next is perhaps from halfway there; the details of shape and size are clearer,	10. The problem is going to get worse as the population explodes in the next century like never before.
finally	11. Finally she squatted down beside me. 12. Finally he decided on the following a bottle of ice cold water his bathing costume and a towel some a pair of sunglasses.	13. Testing drugs safely on people New drugs go through three basic testing phases: in vitro (test tube) and in silico (computer) modelling; animal testing; and, finally , human trials.

Table 12. Representations of Additive Connectors (Sentence Level)

Additive Connectors	Sentence Initial Position	Sentence Non- Initial Position
Sub-ordinate Conjunctions		3. Even now, as a presenter on the nation's most watched news programme, breaks through.
As	3. As a result, he imports his . . . 4. As a senior student in your school/college you have been asked by your . . . school year.	4. The apostrophe should be used in expressions such as 'a week's holiday', 'a day's sickness', 'an hour's delay',
the same as		7. However, not everyone thinks the same as you do so it is important subject matter. 8. . . . the difference between a fact and an opinion is not the same as agreeing with what is said or not.
Co-ordinate Conjunctions		3. Comparisons such as 'he ran like the wind' and 'the dog was as White as snow' have been used so much that they have lost any real vital force and mean no more than 'he ran very quickly' and 'the dog was very white'.
and	3. And the more one is conscious of one's political bias, the more chance one has of acting politically without sacrificing one's aesthetic and intellectual integrity. 4. And the way we told it, it was a close-run thing, a near miss with the forces of evil.	4. Clancy said, 'Let's go and ask the Citizens for Justice and the Prevention of Cruelty people to help find Lena.'
both	3. Both of these contrasting settings can produce perfectly effective ghost 4. Both of the History teacher's cars radiators were not working properly.	3. Remarkably, both Heath and White survived this utter devastation. 4. . . . this is the first roller-coaster to employ both forward and backward motion.
Sentence Connectors		3. or thing and, in particular , to try to influence someone to share your personal opinion in a non-objective way.
in particular	5. In particular , failure to separate sentences correctly through the omission of apostrophes. 6. In particular , explain why they are not as dangerous as they might appear to be.	4. Theme parks and amusement parks in general, and roller coasters in particular , are remarkably safe.
in addition	7. In addition to humane considerations, the economic and . . . for now are compelling. 8. In addition , it is important that, as far as possible, reading the passage.	5. Port Royal's population, in addition to those who died, serious injuries. 6. caused 20,000 cases of breast cancer over the past decade in Britain, in addition to many thousands of heart attacks and strokes.

Table 13. Representations of Adversative Connectors (Sentence Level)

Adversative Connectors	Sentence Initial Position	Sentence Non- Initial Position
Sub-ordinate Conjunctions		3. ATM major cities have ATMs, although not all will accept national bank.
although	1. Although it continued to serve as a British naval base throughout the 18th century. 2. Although their individual circumstances differ from in their own early days at school.	4. It is acceptable to use colloquialisms and contractions in an informal letter although you 'text language.
while	5. While the second Hobbit film, The Desolation of Smaug, opener.	7. In my memory, at least, while I had very curly dark with freckles.

	6. While it is true that a large open drain channelled Marine Parade.	8. Sri Lanka got two run outs, while Milinda Siriwardena in the driving seat.
Co-ordinate Conjunctions		
yet	9. Yet they are now at risk. 10. Yet , five years later a visitor to Jamaica described not how they get it'.	11. Although present-day technology cannot yet replace many types animal testing. 12. He doesn't care a rap for you under his very nose yet the interest an extremely successful man.
but	13. But the Government's plans are a long way from achieving this. 14. But the demonstration spread and got nasty.	15. Because of the context within the narrative, the reader easily guesses what is going to happen, but the child is unsure. 16. Lena was mad longer than forever, but it was a nice mad.
Sentence Connectors		
however	17. However , the word cordial derives from the Latin word should mean the same thing. 18. However , it is important that these supports are convincing and credible.	19. The arguments over equal pay for men and women still continue, however , in other walks of life.) 20. It is best not to use such phrases as 'I hope you are all in the pink of health', however , as English usage.
on the other hand	21. On the other hand , a picture of that person smiling or playing attractive image. 22. On the other hand , the industry wants to reassure park-goers that despite and innocuous.	23. Her character, on the other hand , has to be deduced from what she says and does. 24. We should aim to make what we write as unambiguous as possible; on the other hand , if we are provoke a greater range of responses.

5. Analysis

The Cambridge 'O' levels, English language course book is categorized into two sections. The first part consists on writing skill and the other on reading skill. The section of reading briefly introduces the content of each section properly. The briefing about content heed by number of the chapters which provided the explanation about the content, activities etc. effectively. In the Cambridge book there are plenty of reading passages for activities which consist of various texts. All the texts of reading passages are based on fictional and non-fictional texts which carry reading related activities in it. In quantitative analysis of the Cambridge book the following research analyzed reading comprehension passages. According to first research question, how frequently sentence connectors occur in English textbook. For this purpose, semantic relations between clauses and sentences were observed in the corpora. According to Halliday's (2010) model, casual, temporal, additive and adversative are the semantic categories which develop different meaning in the discourse of passages. As shown in the tables 10 and 11 most of the categories occur frequently in the corpora and also represent the semantic categories' position at the sentence initial and non-initial position. Each word category of sentence connectors executes various function within a text which highlights the importance of these connectors in reading skills to develop better understanding of the ideas. So, the significance of these occurrences develops the reader's clear understanding regarding concept of writer through different semantic categories and also develop their sense of usage of these semantic categories in their composition to make their composition more accurate and for the reader's smooth flow of reading. Through sentence connectors, readers become more able to read the text with full of concentration and analyze the various text with the clear lens of understanding and also enjoy their reading activities with different method.

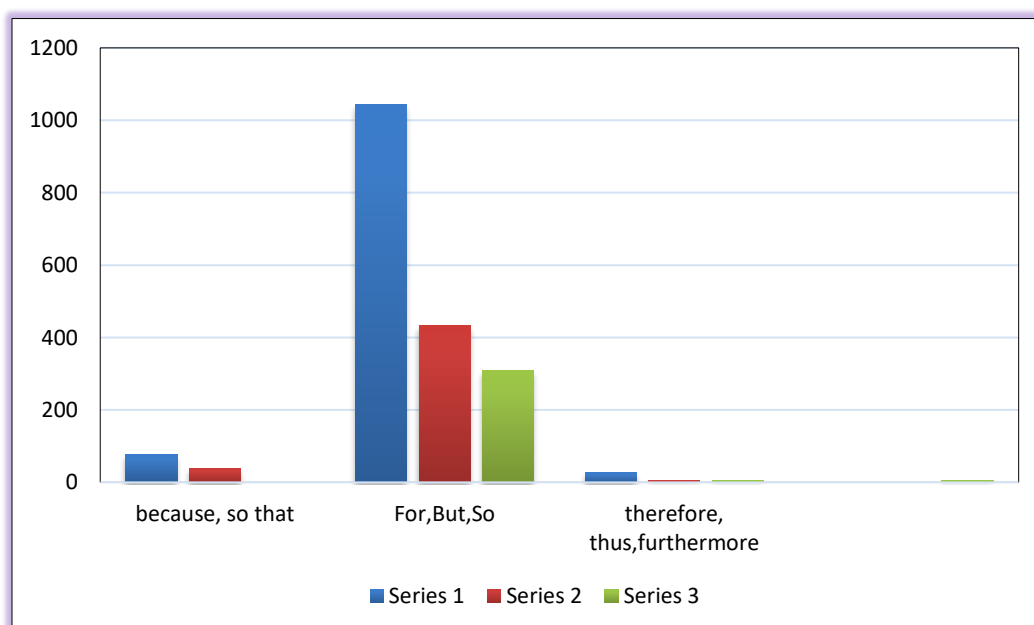
5.1 Analysis of Cambridge 'A' level Textbook "First Language English"

The analysis of semantic relations of selected reading comprehension passages are demonstrated in the following table 14.

Table 14. Instances of Casual Connectors (Cause & Effect, Reason & Purpose)

Cambridge A' Level "English Language" Course Book					
Subordinate Conjunction	Frequency	Coordinate Conjunction	Frequency	Sentence Transistor (Connectors)	Frequency
Because	76	so	310	therefore	26
now that	04	for	1043	thus	06
so that	39	yet	43	as a result	06
in order that	04	nor	03	for this purpose	01
as long as	01	but	432	furthermore	05

Graph 5. Representation of casual connectors' percentage



5.1.1 Casual Connectors

The above table 14 and graphs demonstrated the frequency of all selected semantic relations in Cambridge ‘A’ levels textbooks. According to above table, in causal connectors the sub-ordinate conjunction “because” and “so that” occur frequently with high frequency of 76 times and 39 times in reading comprehension passages to develop more cohesiveness in the paragraphs in comparison to this ratio of occurring of coordinating conjunction “for”, “but” and “so” is higher than sub-ordinate conjunction in the reading passages. Moreover, the usage of transistors in reading passages is very impressive when contrasted to Oxford textbooks. The ratio of selective signal words is higher in this book. The utilization of words like “because” “so that” “so” and “thus” fulfills the simple function of causal relationship in the text. The usage of word “as a result” “for this purpose” performs specific function of casual relation by discussing the purpose of content and the ending of point of view. Thus, the casual connectors of sub-ordinate and coordinate conjunctions mostly are utilized to create general and specific causal relationship between words phrases and clauses to make discourse more comprehensive for the reader.

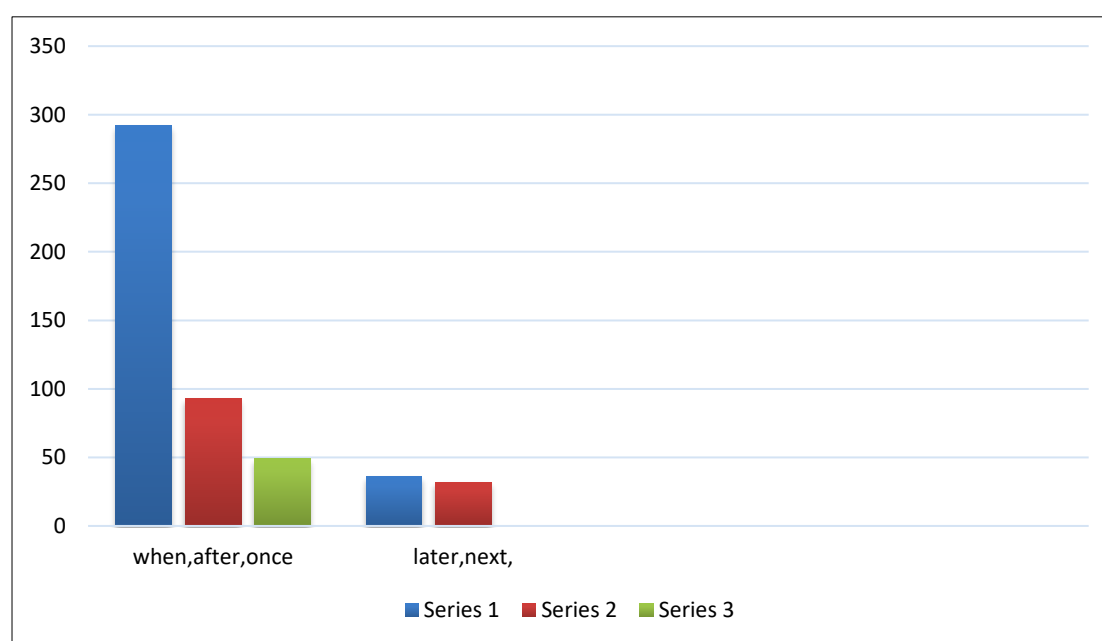
5.1.2 Temporal Connectors

The occurrences of temporal connectors are represented in the following table 15.

Table 15. Instances of Temporal connectors (Sequential & time)

Cambridge A’ Level “English Language” Course Book			
Subordinate Conjunction	Frequency	Sentence Transistor (Connectors)	Frequency
until	22	afterwards	02
after	93	eventually	07
once	49	next	32
whenever	06	later	36
when	292	finally	03

Graph 6. Representation of Temporal connectors’ percentage



5.1.3 Temporal Connectors

As per the table 15 and graphs, the occurrences of temporal sub ordinate conjunction “when” is higher with the frequency of 292 times in the reading passages. On the other hand, the utilization of sentence connectors “next” and “later” occurred with the slight difference of frequency of 36 times and 32 times. In the reading passages, mostly the temporal sub-ordinate conjunctions and sentence connectors are utilized to make the whole discourse unified to connect clauses and sentences within the sequence of time. The most frequent usage of words “after” “once” “when” and “until” accomplish the simple and complex function of temporal connectors in a text. The word “next” “later” enacts the sequential function by stating the direction of authors. To perform the conclusive function of temporal connectors, the word “finally” is used frequently in the text to sum up the whole idea of the author. So, the significance of temporal connectors is to define to the readers the direction of the writers and their thoughts. So, in this way readers become more involved to pursue their reading with full of interest and also understand the directions of writing by recognizing temporal connectors from the text.

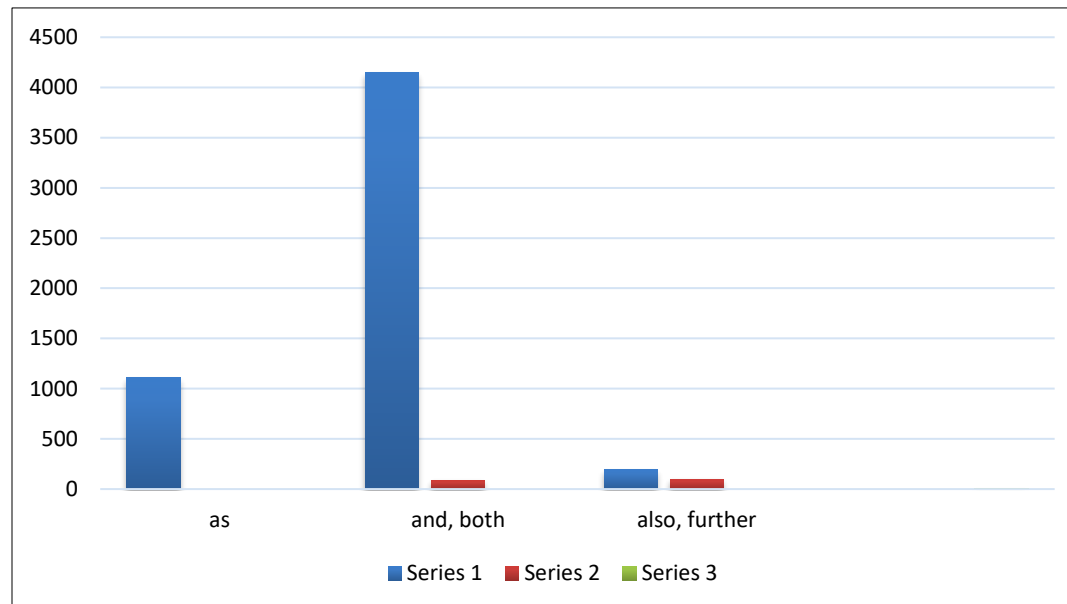
5.1.4 Additional Connectors

The occurrences of additive connectors are represented in the following table 16.

Table 16. Instances of Additional connectors

Cambridge A’ Level “English Language” Course Book					
Subordinate Conjunction	Frequency	Coordinate Conjunction	Frequency	Sentence Transistor (Connectors)	Frequency
as	1112	and	4164	in addition	08
the same as	05	both	88	further	99
		either	34	also	192
		neither	04	in fact	09
				in particular	15
				moreover	02

Graph 7. Representation of Additional connectors' percentage



5.1.5 Additional Connectors

According to the table 18 and graphs, the word “as” is used with the frequency of 1112 times and it perform the function of sub-ordinate conjunction in the reading passage. The utilization of coordinates “and” and “both” occur with the ratio of 4164 times and 88 times and the sentence connectors “also” and “further” occur with the frequency of 192 times and 99 times in reading passages. The overall utilization of sub-ordinate, coordinate and sentence connectors used very selectively in the reading passages to make it comprehensive. The most frequent word “and” fulfills the simple function of additive connectors. The word “also” is used frequently to perform complex emphatic function just to emphasize some ideas in the content. There are also frequent usages of the words like “in addition”, “further” and “moreover” to signal the readers regarding more existing information. The phrase “the same as” carry out the comparative function of additive connectors is to elaborate the similarities of ideas and concepts. The function of additional connectors is to just connect the ideas, concepts logically as well as words and sentence to make a bridge between writer and readers thoughts. These additional connectors make readers able to understand the original message of writers which they present secretly by using different words to develop various discourse structures to convey their message to the readers. Moreover, the function of additional connectors is to create cohesiveness in the ideas and concepts of the writer and then the students become able to understand the concepts.

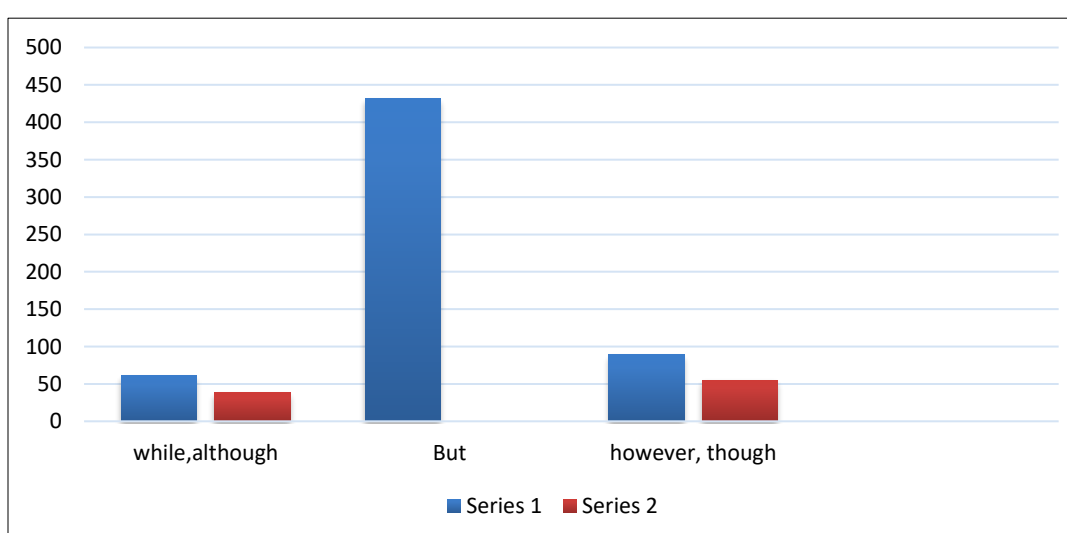
5.1.6 Adversative Connectors

The occurrences of adversative connectors are represented in the following table 17.

Table 17. Instances of Adversative connectors (Opposition or Contrastive)

Cambridge A' Level “English Language” Course Book					
Subordinate Conjunction	Frequency	Coordinate Conjunction	Frequency	Sentence Transistor (Connectors)	Frequency
even though	11	but	432	however	89
although	38	anyway	05	nevertheless	05
while	61			though	55
whereas	08			on the other hand	03
				despite this	05
				of course	19

Graph 8. Representation of Adversative connectors' percentage



5.1.7 Adversative Connectors

In reading comprehension passages adversative connectors are utilized to develop the opposition of concepts by using different adversative connectors. As shown in the table 17 and graphs the word “while” as sub ordinate conjunction is utilized with the frequency of 61 times in the passages whereas, the word “but” occurs 432 times as coordinate conjunction and the connector “however” is used 89 times as sentence connectors to develop opposing ideas for the readers by creating comparison and contrast between the ideas. The words “while”, “whereas”, “however”, “although”, “on the other hand” and “therefore” are used frequently to accomplish the function of contrastive adversative connectors. These contrastive connectors are used to build contrastive ideas and concepts in a text. Another most frequent word “but” that is used to develop proper adversative connection between sentences and clauses to describe contrary ideas and notions in a reading passage.

Text Examples

The position of selected semantic relations such as sub-ordinate, coordinate conjunctions and sentence connectors at sentence initial and

non-initial position are represented in the following table 18.

Table 18. Representations of Casual Connectors (Sentence Level)

Causal Connectors	Sentence Initial Position	Sentence Non- Initial Position
Sub-ordinate Conjunctions		
so that		<ol style="list-style-type: none"> . . . my mother passing steaks out the kitchen window to my father so that he could put them on a barbecue. Excuse me sir, would you mind moving up a little so that I can have a seat?
because	<ol style="list-style-type: none"> Because it makes you sound stupid and you're not stupid. Because many people will not know each other, formal 1 introductions will take place and . . . with many stories. 	<ol style="list-style-type: none"> . . . who deliver news bulletins often use it, because they are likely to be trusted and what they are saying is assumed to be true. initially I was really scared of it well because I was like I'm an actor in these films.
Co-ordinate Conjunctions		
for	<ol style="list-style-type: none"> For the light that shone in this country was what to tell you and how to say it. 	<ol style="list-style-type: none"> It had been climbed for the first time in 1936 by two bold Germans via the North Ridge. It is a struggle for the right to live.
Sentence Connectors		
therefore	<ol style="list-style-type: none"> Therefore one people should always be united and disciplined. Therefore, some of what we say becomes routine and patterned, for example . . . to be honest. 	<ol style="list-style-type: none"> I ought, therefore, as the elephant was sideways on, to have aimed straight at his ear-hole; actually I aimed several inches in front of this, thinking the brain would be further forward. Estuary English may therefore be the result of a confluence of two social trends

Table 19. Representations of Temporal Connectors (Sentence Level)

Temporal Connectors	Sentence Initial Position	Sentence Non- Initial Position
Sub-ordinate Conjunctions		
when	<ol style="list-style-type: none"> When you have finally got there . . . you crawl through the last line of pit props and see opposite you . . . When you both start speaking at once, who carries on? 	<ol style="list-style-type: none"> are you going to tell me when you have finished? so I don't know all the details it was when you were both working in the theatre.
Sentence Connectors		
next		<ol style="list-style-type: none"> It will be the next century before the bus arrives. when the next generation shifts to another language, these languages will die . . .
later	<ol style="list-style-type: none"> Later that night, my grandfather would meet Hiram Cassidy, the lynchpin in an event . . . prematurely. Later, the writer publishes a furtlier account about a different location where he also needed patience. 	<ol style="list-style-type: none"> It captured my grandfather later in his life standing shoulder. FOR Papua New Guinea Colonization by Britain and later Australia led to the development of a creole language

Table 20. Representations of Additive Connectors (Sentence Level)

Additive Connectors	Sentence Initial Position	Sentence Non- Initial Position
Sub-ordinate Conjunctions		
as	<ol style="list-style-type: none"> As a result, the English language continues to evolve . . . language. As a young man of eighteen he had brought honor . . . 	<ol style="list-style-type: none"> English is spoken as a first language by around 375 million and . . . in the world. After 1066, . . . two hundred years as a result of the Norman Invasion of England led by William the Conqueror.
Co-ordinate Conjunctions		
and	<ol style="list-style-type: none"> And the other conditions do not exactly make things easier. And the Women Who write “mum” on their Twitter and Facebook bios knows that too. 	<ol style="list-style-type: none"> . . . some freedoms of speech and the accusation that certain powerful groups are adopting dictatorial methods. Afrikaans replaced English as the language of government, administration, the police, and the armed forces, . . . of apartheid.
Sentence Connectors		
also	<ol style="list-style-type: none"> Also the many local dialects of British English have in the past been regarded as non-standard. Also less demanding vocally (though during this song she’s dancing quite a bit). 	<ol style="list-style-type: none"> You may also be amazed at the speed at which young . . . conversationalists. you might also be treated to a Maurice Sendak festive outdoor barbecue on shore.
further	<ol style="list-style-type: none"> Further reinforce solidarity and group interests. 	<ol style="list-style-type: none"> . . . Burmans could indicate further delaying tactics, as well as implying his own youthful innocence . . . to possess.

Table 21. Representations of Adversative Connectors (Sentence Level)

Adversative Connectors	Sentence Initial Position	Sentence Non- Initial Position
Sub-ordinate Conjunctions		
while	<ol style="list-style-type: none"> While the Indian languages are still spoken today, . . . the continent. While the rugged good looks of the . . . the details are equally impressive. 	<ol style="list-style-type: none"> . . . French was the language of the aristocracy and the powerful in England, while the peasants continued with Old English. They have got to remain kneeling all the while they could hardly rise from their knees without hitting . . . means.
Co-ordinate Conjunctions		
but	<ol style="list-style-type: none"> But it is distinct from EE, referring to a deliberate and often temporary accent. But it has little effect. 	<ol style="list-style-type: none"> Water has more shape and presence than air, but it is still colorless. It's perhaps not as catchy,” she says, but it comes closer to what we're trying to describe.

Sentence Connectors		
however	<ol style="list-style-type: none"> 1. However, the English language remained a major . . . higher education. 2. However, the rapid language development . . . materialised. 	<ol style="list-style-type: none"> 1. Since 1945, however, the increasing economic power of the USA and its unrivalled . . . European countries. 2. More recently however, it has been predicted that economic growth in the next 50 years . . . the Pacific.

6. Discussion

In quantitative analysis of Cambridge book the researcher analyzed reading comprehension passages. For this purpose, semantic relations between clauses and sentences were observed in the corpora. According to Halliday and Hasan (1976) model, casual, temporal, additive and adversative are the semantic categories of sentence connectors which develop different semantic textness in the discourse of passages to convey specific meanings. As shown in the table 20 and 21 most of the categories occur frequently in the corpora and also represent the semantic categories and their position at sentence initial and non-initial positions. So, the significance of these occurrences of semantic relations reveals that each semantic category performs specific functions in reading comprehension passage. All these semantic relations develop logical connection between sentences and words to convey the information in an appropriate way. These semantic categories have no their own meaning but the utilization of these semantic connectors in the passages are determined by those sentences and words which they use to connect. These all connectors play a vital role in reading comprehension because they facilitate the learners and readers about knowledge of language. By using this knowledge, the readers recognize these connectors and become able to decode the exact meaning from the text. As shown in the frequency tables and graphs the most frequently accruing semantic relations dictated the logical interconnection between sentences. For example, one connector may make contemplations that are clearly distinguishable from those made by some other sentence connector between the sentences, clauses and words. As a result of this, the semantic meaning and interpretation of two separate phrases can change depending on the sentence connector together. In this way, readers become able to understand the significance of different semantic relation, categories that are responsible to develop certain discourse structures in a text. So, through the recognition of these sentence connectors in the reading comprehension passages readers comprehend the text beyond the sentence level.

7. Conclusion

The primary goal of current research was to investigate the semantics of sentence connectors in reading comprehension. The findings of current research reveal that both textbook utilized sentence connectors frequently. The overall ratio of all sentence connectors' categories is more frequent in 'A' levels textbooks while 'O' levels textbooks utilized various temporal connector's frequently in reading passages. Each word category of sentence connectors executed specific semantic function within a text. The semantics of sentence connectors build more cohesive ties in the reading passages for the readers. The implications of current research are for the language teachers and students. As a consequence of this, students will gain a significant amount of benefit from such cohesive sentence connectors in terms of comprehending the meaning of the reading texts, as well as improving both their reading comprehension and their vocabulary that is based on various topics. Furthermore, this paper serves as a starting point for future investigations into the use of sentence connectors in the teaching and learning of reading comprehension and writing skills.

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