

Cohesion Analysis on Texts for Reading Comprehension

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Keywords: Cohesion, Reading Comprehension, Texts, Interpretation

Abstract: By using cohesion devices such as reference, ellipsis, substitutions, lexical cohesion, or conjunction, this study is intended to analyze the textual interpretations which correspond to selected high cohesion texts whether they carry the comprehension of reading or not. The textual interpretations from which two stated meaning questions and two implied meaning questions correspond to the text have been analysed by descriptive qualitative method. Firstly, the comprehension of the stated meaning questions is drawn from the abundant semantic ties carrying semantic integration in the text. It also inserts relational coherence situated in closer to text based. Secondly, the comprehension of the implied meaning questions is described as the abundant semantic ties carrying semantic integration and occupies relational coherence in the microstructure of text. Therefore, the comprehension of reading is composed of abundant semantic ties leading to semantic integration and relational coherence situated in closer to text based and microstructure of text on the high selected cohesion texts in this study.

1 INTRODUCTION

Text comprehension has been widely used for reading proficiency measurement. This type of test examines users' cognitive language operations by answering comprehensive questions. The involved cognitive language operations of reading text are "Several subprocesses carrying lexical access, word interpretation, syntactic parsing, semantic integration, and textual organization" (Ehrlich, 1991). These operations have an accumulated demand, which refers to the comprehension, for text readers.

Comprehension is "A mental representation of the text content which is dependent on both text variables and subject variables" (Ehrlich, 1991). Another assumption on reading comprehension is explained by Attaprechakul (2013) that "To fully understand a text the reader must be able to interpret the value of proposition and the logical flow of this value, not simply understanding its signification. The other argument is that reading comprehension of language is an interaction between a text and its users.

The involvement of readers, in the term of their cognitive language system, has an effect to the comprehension of text. The phenomenon has been

repetitively found, relating to readers' factor on text comprehension in reading instruction, that among readers have gotten either different or similar comprehension of the only same text. However, the contribution of their cognitive language operations in reading comprehension won't be discussed in this study. This study, instead, has paid the attention to the text from which the comprehension is composed. The texts to which are referred in this study are the high-cohesion texts. "The benefit of text cohesion should be more pronounced for readers with less knowledge. That is, whereas maintenance of text coherence in a less cohesive text demands contribution of specific knowledge, a highly cohesive text is more self-contained, hence requires less contribution of topic-specific knowledge for maintenance of text coherence" (Ozuru et al., 2009).

Cohesion and coherence are parts of text comprehension. "Cohesiveness of a text, an objective feature of text, is an important factor to determine text coherence, which is a subjective psychological state of reader (Graesser et al., 2004; Halliday & Hasan, 1976). Cohesion, the linguistic tool which is applied in this study, "relates to semantic tied within text whereby a tie is made when there are some dependent

links between items that combine to create meaning” (Hameed, 2008). Additionally, Halliday and Hasan (1976) argued that cohesion “As a semantic relation based on the central notion of presupposition-one element presupposes another which is located somewhere in the text (anaphora or cataphora) or in the context of situation (exophora) and which is essential for text interpretation”. Cohesion of text occurs “When the interpretation of some elements in the discourse is dependent on that of another” (Halliday & Hasan, 1976). The devices that help a text carry cohesion, proposed by Halliday and Hasan (1976) are reference, ellipsis, substitutions, lexical cohesion, or conjunction. These devices hold the words within the text to be tied together for semantic relation among them.

On the other hand, the connectedness in a text should be looked at coherence as well. This assumption is supported by Ehrlich (1991) that local cohesion is where two cohesive propositions share a common argument in microstructure of text, whereas coherence is the global level of cohesive propositions that are organized within the macrostructure of text. This is called by Ehrlich (1991) “a coherent graph of propositions”, which is described in this study, has the same notion as Nuttal (2006) that it is “the pragmatic meaning, suggesting the writer-reader interaction”. Ehrlich (1991) also added that “Coherence defines as text interpretability”. In short, the textual interpretations which are the product of reader’s cognitive language operations have been semantically tied by text-words to create both cohesive and pragmatic meanings.

Consequently, by using cohesive devices this study aims to analyze whether the textual interpretations from which selected comprehensive questions correspond to text carry the comprehension of reading or not. In reference to the purpose of this study, the writer tries to answer the question on how does cohesive devices such as reference, ellipsis, substitutions, lexical cohesion, or conjunction on texts perform to comprehend text?

2 METHOD

2.1 Analysis Framework

2.1.1 Comprehensive Question

The comprehensive questions are classified into two categories. They are stated meaning question and implied meaning question. The assumption of Ozuru et al. (2009) on these two kinds of

comprehensive questions fits to be supporter to describe what they are meant in this study. The stated meaning question has relevant assumption on “closer to text based or less integration information”. Meanwhile, the implied meaning question deals with the argument that it “requires more extensive integration or closer to situation”.

2.1.2 Textual Interpretation

This study uses four selected high cohesion texts, discussed by Prosus Inten Bandung. Each of available five textual interpretations which correspond to the text occasionally leads to the failure of getting the comprehension of text. Then, to figure out the most reliable textual interpretations which is regarded as the text comprehension in this study, cohesion devices such as reference, ellipsis, substitutions, lexical cohesion, or conjunction are employed. In addition, the coherence of text is occupied in this study corresponding to referential coherence and relational coherence.

2.1.3 Cohesion Devices And Coherence of Text

There are five devices of cohesion to tie the semantic relation among sentences. Halliday and Hassan (1976) distinguished the devices of cohesion. Reference is described as two linguistic elements are related in what they refer to; Substitution is a linguistic element which is not repeated but which is replaced by a substitution element; Ellipsis means one of the identical linguistic element is omitted; Conjunction is a semantic relation is explicitly marked; Lexical cohesion is two elements share a lexical field (collocation). In addition, Sanders and Matt (2006) argued that coherence is the connectedness of discourse which is characterized of the mental representation of the text rather than the text itself. The text can cohere from which two respects are there. Sanders and Matt (2006) distinguished them. “Referential coherence is smaller linguistic units (often nominal groups) may relate to the same mental referent (Anaphora); Relational coherence is text segments (most often conceived of as clauses) are connected by coherence relations like Cause-Consequences between them (Clause Relation).”

2.1.4 The Analysis on Textual Interpretations

To analyze the textual interpretations from which the selected comprehensive questions correspond to the four selected texts, the analysis instrument on

semantic relation on text has been established. Each of these textual interpretations is put into three categories, in which how many cohesive semantic ties on the text contribute to each interpretation and how the interpretations are coherent with text. The categories proposed are subjective interpretation, cohesive interpretation, and comprehensive interpretation.

a. Subjective Interpretation

“Which means that would be fewer cohesive ties, with variance of both in the same text within and across paragraph boundaries” (Halliday and Hasan, 1976).

b. Cohesive Interpretation

A propositional or cohesive meaning but not carrying pragmatic value of text.

c. Comprehensive Interpretation

“Which means that there are many cohesive ties” (Halliday and Hasan, 1976), and that carries pragmatic meaning or coherence, “suggesting the writer-reader interaction” (Nuttall, 2006).

3 FINDINGS AND DISCUSSION

3.1 Findings

3.1.1 Analysis Instrument of Semantic Relation on Text of Question Stated Meaning

Semantic relation analysis instrument of stated meaning question consists of five cohesion devices such as reference, ellipsis, substitution, lexical approach, conjunction. Referential coherence and relational coherence are included.

Table 1: Stated meaning question.

Choice of	Interpretations	Total of Semantic Test	Coherence of Text	Category
A	The lowest price for the item	5		Cohesive Interpretation
B	The average price for the item	4		Subjective Interpretation

C	The lowest price for the item	4		Subjective Interpretation
D	The most affordable price for the item	6	Relational	Comprehensive Interpretation
E	The highest price for the item	4		Subjective Interpretation

Table 2: Stated meaning question.

Choice of	Interpretations	Total of Semantic Test	Coherence of Text	Category
A	Unlike computers, automobiles give problems	4		Subjective Interpretation
B	Computers and automobiles have given us problems	6		Subjective Interpretation
C	A revolution in technology can be the source of much trouble	6		Subjective Interpretation
D	Problems caused by automobile started in 1980	7	Relational	Comprehensive Interpretation
E	Before 1980, computer did not cause any problems	4		Subjective Interpretation

3.1.2 Analysis Instrument Of Semantic Relation on Text of Implied Meaning Question

Semantic relation analysis instrument of stated meaning question consists of five cohesion devices such as reference, ellipsis, substitution, lexical approach relying on synonymy and antonymy, or

conjunction. Referential coherence and relational coherence are included.

Table 3: Implied meaning question.

Choice of Interpretations	Total of Semantic Ties	Coherence of Text	Category
A Traveled from Brazil to Africa	1		Subjective Interpretation
B Was predecessor of African bee	2		Subjective Interpretation
C Was carried from Brazil to Africa in 1955	4	Relational	Comprehensive Interpretation
D Is aggressive by nature	2		Subjective Interpretation
E Could not live in Africa so that the bee was carried out to Brazil	4		Subjective Interpretation

3.2 Discussion

3.2.1 Table 3.1.1 (Stated Meaning Question)

Although the interpretation (A) has five semantic ties, this interpretation does not carry the pragmatical value which defines the price, intended in the text, is the lowest price “to buy” the home supplies such as building materials and plans for constructing the house. It is cohesive interpretation.

The interpretation (B) carries four semantic ties but has unidentified words to support the average price. This interpretation leads to subjective due to the variance of meaning that are not composed of text.

Table 4: Implied meaning question.

Choice of Interpretations	Total of Semantic Ties	Coherence of Text	Category
A Will be highly expensive	0		Subjective Interpretation
B Can be done in a few years	7	Relational	Comprehensive Interpretation
C Is against religious doctrines	0		Subjective Interpretation
D Can keep a person's body healthy and strong	2		Subjective Interpretation
E Involves a complex procedure and highly advanced technology	6		Subjective Interpretation

The interpretation (C) has four semantic ties. However, it carries “the only price” as the interpretative idea of the price. This idea is not supported by any ties in the text. This is the variance of meaning and subjective interpretation.

The interpretation (D) has the most semantic ties of all, with six ties carrying the semantic integration which defines the meaning of what the price is intended in this text. The interpretation has relational coherence which is closer to text based.

The interpretation (E) carries three semantic ties but has no semantic ties of the interpretative idea for “the highest price”. This is subjective due to the variance of meaning not composed of text

3.2.2 Table 3.1.2 (Stated Meaning Question)

The interpretation (A) has four semantic ties. The word “unlike” in this interpretation has no supporting words in the text. This is the variance of meaning that are not composed of text. When the semantic ties are collected, they pronounced utterance as if the text gave the “fine meaning” of interpretation of choice A. “Computers (and) automobiles bring problems”

The word “the same” in the interpretation (B) has no supports in the text. This is the variance of meaning that are not composed of text. This leads to be subjective despite of the six semantic ties supports.

The interpretation (C) has six semantic ties. However, the word “much” cannot be found through the semantic ties in the text. When the ties are collected, they show what the text means “development, new invention, (or) new tool (of) technological have brought unexpected problems”. This interpretation is subjective despite of six

semantic ties. Besides, this textual interpretation occupies more extensive integration that does not fit with the type of question.

The interpretation (D) has the most semantic ties which lead to semantic integration. This interpretation has relational coherence of text which is closer to text based or less integration information. In addition, when the ties are grouped, the ties show similar meaning to the closer to text based, explaining “ However, traffic jams, air pollution (of) automobiles have also (been) brought (to) us, also began” since Henry Ford began mass-producing them in 1980.

The interpretation (E) has four semantic ties. The interpretative idea about “Before 1908 and did not cause” has no supporting ties in the text. This leads to be subjective due to the variance of meaning not composed of text.

3.2.3 Table 3.2.1 (Implied Meaning Question)

The interpretation (A) has only one tie. This interpretation is subjective. It is also found that the referential coherence shows “from South America to North America”, not as stated as the interpretation “from Brazil to America”. This is also variance of meaning not composed of text.

The interpretation (B) has two ties. This interpretation is subjective due to its opposite tie. The word “predecessor” in the interpretation has the contrast meaning with “hybrid” in the text.

The interpretation (C) has four ties. The total of ties within the interpretation shows semantic integration. This interpretation has relational coherence in the microstructure of text. This interpretation is comprehensive interpretation.

The interpretation (D) has two ties. This interpretation is subjective due to its antonymous tie. The word “aggressive” in the interpretation has the contrast meaning to “not aggressive” in the text.

The interpretation (E) has four ties. However, the interpretation is not composed of text due to the variance of meaning “ could not live in Africa so that”. This is subjective interpretation.

3.2.4 Table 3.2.2 (Stated Meaning Question)

The interpretation (A) has zero semantic tie. This leads to be subjective due to the variance of meaning not composed of text.

The interpretation (B) has the most semantic ties which lead to semantic integration, and occupies relational coherence in microstructure of text. This is comprehensive interpretation.

The interpretation (C) has no semantic ties. This leads to be subjective due to no semantic link supports.

The interpretation (D) has two semantic ties. One tie supports the comprehension, but the other declines with its opposite mark “cease” for “keep”. This interpretation is subjective.

The interpretation (E) has six semantic ties. Four ties are connected to the text, two other ties are antonymous. “alone and a shot” in the text have been contrary to “complex” of procedure of nanotransmitter in the interpretation.

4 CONCLUSIONS

The cohesion analysis on the textual interpretations gives the insight how the comprehension is described. Firstly, the textual interpretations which are regarded as text comprehension of two stated meaning questions have been occupied by abundant semantic ties leading to semantic integration, and relational coherence situated in closer to text based or less integration information. Secondly, the textual interpretations of two implied meaning questions which are regarded as text comprehension have been occupied by the abundant semantic ties which support semantic integration, and relational coherence in microstructure of text. Therefore, the comprehension of reading is composed of abundant semantic ties leading to semantic integration and relational coherence situated in closer to text based and microstructure of text.

ACKNOWLEDGEMENTS

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APPENDIX

Text

In the early twentieth century, it was not possible to buy just home supplies from the Sears and Roebuck catalogue. It was actually possible to buy a mail-order house. If you ordered a house through the mail, you would receive all necessary building materials as well as plans for constructing the house; all of this could be had for prices starting around \$600.

Prosus Inten-Try out ke-12 Kemampuan Dasar Pola SBMPTN 2017.

Comprehensive question: The price of \$600 mentioned in the passage was _____

Text

Technology brings problems as well as benefits to human kind. Since Henry Ford began mass-producing them in 1908, automobiles have provided us with a cheap and convenient means of transportation. However, they have also brought us traffic jams and air pollution. A technological development that is changing our lives as much as the automobiles is the personal computer. Since the 1980s, personal computers have become common in home, schools, and business, and just as automobiles have brought unexpected problems, so have personal computers.

To begin with, communication by computer has caused some problems. Although we can easily send a message to hundreds of people in an instant, we can also receive hundreds of messages, both wanted and unwanted, in just a few minutes. It took several

hours to read all of them. The lack of censorship in cyberspace is another problem that no one has solved yet. Our expanded ability to communicate means that anyone with a computer can communicate anything to anyone on any subject at any time. Therefore, a computer-literate child can receive pornographic photos and listen to chat-room conversation about sex.

In addition to problems in communication, computers have also caused problems in business. They have created excellent opportunities for computerized crime. Computer criminals use their skills to obtain secret business information and to steal moneym. Moreover the use of computers has depersonalized business. People are no longer customers; they are account numbers. Face-to-face business transactions are no longer necessary, you can buy almost anything you need by computer, phone, or fax. Also, as telecommunicating becomes more common, workers in the same company interact with each other less and less. Someday it may be possible to have a company of people who have never met face to face.

It is clear that personal computers have made our lives easier, but they have done so at cost. As with every new invention, there have been unforeseen consequences. It is up to us to find the solutions to the problems as well as to enjoy the conveniences of the new tool

Prosus Inten- Diskusi 3-Bahasa Inggris Intensif 2017

Comprehensive question: Which of the following is true?

Text.

These stories of killer bees in the news in recent years have attracted a lot attention as the bees have made their way from South America to North America. Killer bees are reputed to be extremely aggressive in nature, although experts say that their aggression have been somewhat inflated.

The killer bee is a hybrid of the very mild European strain of honey bee and the considerably more aggressive african bee, which was created when the African strain was imported to Brazil in 1955. The African bees were brought to Brazil because their aggression was considered as an advantage; they were far more productive than their European counterparts in that they spent higher percentage of their time working and continued working longer in inclement weather than did the European bees.

These killer bees have been known to attack humans and animals, and some fatalities have occurred. Experts pointed out, however, that the mixed

breed known as the killer bee is actually not at all as aggressive as the pure African bee. They also point out that the attacks have a chemical cause. A killer bee stings only when it has been disturbed; it is not aggressive by nature. However, after a disturbed bee stings and flies away, it leaves its stinger embedded in the victim. In the vicinity attached to the embedded stinger is the chemical isoamyl acetate which has an odor that attracts other bees and causing them to sting. The new stings create more of the chemical isoamyl acetate, which attracts more bees and increases the panic level of the victim. Killer bees tend to travel in large clusters or swarms and thus respond in large numbers to the reproduction of isoamyl acetate.

Prosus Inten-Diskusi-5 Bahasa Inggris Intensif 2017

Comprehensive question: It can be inferred from the passage that the killer bees _____

Text

If you had the opportunity to live forever, would you take it? The obstacles to keeping your body alive indefinitely still seem insurmountable, but some scientists think there is another possibility opened up by digital technology: creating a digital copy of your "self" and keeping that "alive" online long after your physical body has ceased to function.

In effect, the proposal is to clone a person electronically. Unlike their familiar physical clones - offspring that have identical features as their parents, but that are completely separate organisms with a separate conscious life - your electronic clone would believe itself to be you. How might this be possible? The first step would be to map the brain.

How? One plan relies on the development of nanotechnology. Ray Kurzweil - one of the prophets of artificial intelligence - predicts that within two or three decades we will have nanotransmitters that can be injected into the bloodstream. In the capillaries of the brain they would line up alongside the neurons and detect the details of the cerebral electronic activity. They would be able to transmit that information to a receiver inside a special helmet or cap, so there would be no need for any wires protruding from the scalp.

As a further step, Ray Kurzweil also envisages the nanotransmitters being able to connect you to the world of virtual reality on the internet, similar to what was depicted in the film "Matrix". With the nanotransmitters in place, by thought alone, you could log on to the internet and instead of the pictures coming up on your screen they would play inside your mind. Rather send your friends e-mails

you would agree to meet up on some virtual tropical beach.

For Ray this would be, quite literally, heaven. Once you upload the brain onto the internet and log on to that virtual world the body can be left to rot while your virtual self carries on playing Counter Strike forever. Therefore, why wait when you can have a shot of nanobots and upload your brain onto the internet and live on as an immortal virtual surfer?

UM UGM 2016

Comprehensive question: it can be inferred from the text that electronic cloning _____