The Introduction of Topical Structure Analysis into the Japanese University EFL Writing Class
- For the Purpose of Producing Coherent Writings -

YAMASHITA　Iwao ＊

Abstract

The present paper is an attempt to investigate the validity and reliability of coherence as an objective measure for writing proficiency of Japanese university students. Coherence is regarded as one of the important elements in effective writing, but it has been referred to as an elusive notion which arises from the paralinguistic factors such as schema and expectations which generally reside in reader's mind. Many attempts was made in the 1980's and 1990's to quantify coherence, and topical structure analysis, which was put forward by Lautamatti(1987), successfully visualized coherence in a graphic manner. The present paper aims to explore the possibility of topical structure analysis by tentatively employing it as a criteria for the evaluation of students' writings. 35 sample writings were topically analysed after they were holistically rated by two independent rators. The topical structures of the writings which were highly rated by holistic evaluation turned to be similar to the sample writing with ideal topical structure shown by Witte(1981-a). This may lead to the inclusion of the instruction of topical structure analysis not only into the methodological cycle of writing class, but also into the textbook organization as its potential activity.

Key words：coherence, cohesion, topical structure analysis, topical progressions, inter-sentential analysis, objective criteria for writing skills,

1. Coherence as a criteria for the measurement of EFL learners' writings

Some Japanese teachers of English are beginning to be aware of the importance to help students acquire a positive and communicative attitude with which they verbalise their own ideas in written English. But why do most of them remain unchanged? One of the principal reasons for this impasse is the hard fact that it is very a demanding task for teachers to evaluate students' writings appropriately. For the time being most of those teachers have had no choice but to rely on what is called a 'holistic measure' based on their own experience and judgment when they need to evaluate

＊　順天堂大学保健看護学部
＊　***Juntendo University Faculty of Health Science and Nursing***
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students' writings.

Therefore, it is extremely urgent that objective criteria for measurement which have a high degree of reliability and validity should be established. What is actually employed as criteria for the evaluation of students' writings mostly consists of such general categories as spellings, punctuation, and, most frequently, grammatical accuracy. These formal factors may function, in particular, as a proper index for intra-sentential accuracy but it is doubtful whether they contribute a great deal to the measurement of the underlying factors closely related to text-organisation on an inter-sentential level. An alternative measure should be invented for the measurement of such ability to string sentences together, which is termed as 'discourse competence' or 'textual competence'.

Various studies have been recently conducted in the past to examine objective measures of writing proficiency. Some of them such as T-unit and cohesive ties have attempted to examine such quantitative features of writing samples as syntactic complexity. Above all, such researches have focused on the correlation of holistic evaluation of ESL teachers and analysis of coherence in writing samples.

2. What is coherence?

According to Richards et al (1985), coherence is interpreted as the relations which connects the meanings of utterances in a discourse or of the sentences in a text. Unlike cohesion, coherence is not solely engendered by grammatical or lexical relations overtly externalised in texts but also arises from the paralinguistic factors such as schema and expectations which generally reside in reader's mind.

Widdowson (1978) provides us with the following

example which is a coherent interaction though there is no cohesive relationship perceived in it.

A: That's the telephone.
B: I'm in the bath.
A: O.K.

A' s first utterance can be interpreted as a request, B's response to it as an excuse and A's second utterance an acceptance of B's excuse. The links between utterances can be produced by the inference of the relationship between the two people and consequently come to be interpreted as a meaningful interaction. In this way the lack of formal links can be compensated by the context of situation.

Though overt relation between cohesion and coherence has not been specified so far, Fitzgerald and Spiegel (1986) pointed out that cohesion is a component of coherence and McCully's(1985) reported that textual cohesion appeared to be a sub-element of coherence.

2.1. Study of coherence as an index

It is a thought-provoking result that specific sub-categories of lexical cohesion, which are actually collocation and synonym, are both directly and indirectly related to coherence and consequently contribute to writing quality. It is also noteworthy that this tendency has been reported to be found not only in native speakers writings but also compatible to the writings by ESL and EFL learners. This has become distinct from the results of a number of researches which have been conducted on EFL and ESL learners' writing quality. It is worth examining the validity of coherence as a separate measure for writing quality. There have been several pieces of research to provide a

means to assess the contribution of coherence, which is partly an extra-textual factor operating within reader's mind, to writing quality. However, problem arises concerning how to quantify such an abstract notion as coherence.

2.1.1. Measurement of coherence based on holistic evaluation

As is mentioned above, coherence has been referred to as an elusive notion. However, if it is to be used for a computer analysis as data, it must be quantified by mathematical figures. Most of the researchers in the past mainly depended on holistic rating for assessing coherence in written texts. Tierney and Mosental (1983) depended primarily on the objective marking by experienced teachers for the assessment of overall coherence and made use of the results as an index for the measurement of writing quality. McCully (1985) attempted to quantify coherence by introducing the standard developed by National Assessment of Education Progress (NAEP). In both of these researches scores of coherence in students writing were used as a dependent variable, with cohesive devices independent variables. The results of these researches showed that coherence contributed to writing quality.

2.1.2. Measurement of coherence based on cohesion

The research results which are worth the most critical attention are the ones reported by Lautamatti (1982). It was pointed out in the previous section that coherence is derived not only from factors within the text which is usually referred to as textual cohesion but also from extra-linguistic factors operating within the reader. Lautamatti (1982) more closely and thoroughly explained this point by dividing coherence into two

sub-categories which are respectively termed as 'propositional coherence' and 'interactional coherence'. The former is engendered both by the organisation of information and by the development of semantic content. On the sentence level this type of coherence is realised as textual cohesion. The latter takes place often as verbal interaction even when textual cohesion is absent. This is shown by the example in Widdowson (1978) in the previous section. What attracts attention in Lautanatti's analysis is the examination of the essential features of speech event which relate to the type of coherence. It indicates that the propositional coherence can be characterised by the absence of immediate pragmatic context shared between addressor and addressee, no possibility of immediate feedback from addressee, little shared knowledge, etc. Needless to say, these features are prominent in written language. That is to say, the analysis of coherence by Lautamatti (1982) theoretically suggests that specifically in a written text coherence can be accounted for by cohesion. This was empirically demonstrated by McCully (1984) and Spiegel and Fitzgerald (1990).

Some attempts were made to invent a linguistic and text-based measure to evaluate an elusive notion of coherence. The idea of 'cohesive harmony index' put forward by Hasan (1984) can be counted as one of them. It aims to measure coherence by means of cohesion overtly realised in a text. It is actually calculated based on the interactions between lexical chains formed by a series of words in a text. Spiegel and Fitzgerald (1990) examined the correlation between cohesion and coherence by employing the cohesive harmony index and compared the results with the ones of an earlier study which used holistic rating of coherence. But the data brought about by this empirical research by

Spiegel and Fitzgerald (1990) reported that those two coherence measures were negatively though generally not significantly correlated.

3. Topical structure analysis

The idea of topical structure analysis was put forward by Lautamatti (1987) as one of the strategies to describe how coherence of texts is formed and it has made a great deal of contribution to the development in direct measurement of coherence in a text by putting forward the notion of 'sub-topic'. Based on the research on relationship between discourse topic and comment, which was originally made by Prague School linguistic theorists, Lautamatti discovered a textual principle that governs the semantic content of discourse. It says that the overall meaning of discourse derives from its discourse topic which in turn consists of a sequence of sub-topics hierarchically realised in a chain of sentences. This idea was developed to 'topical structure analysis', which was invented initially for the purpose of describing coherence in text.

Topical structure analysis "focuses on the semantic relationship that exists between the sentence topic and the discourse topic" (Connor & Farmer 1990). It initially starts with looking at a sequence of sentences to specify a topic of each sentence and examines how each of these sentence topics interact with the topics of its adjacent sentences to progressively organise a meaning as a whole text. In this type of analysis, coherence is derived from how the writer positions the topic within a clause and then how it progresses in a paragraph within the entire composition to show how the sequencing of topics "works through the text to progressively build meaning" (Connor and Farmer 1990). In this way, one could actually visualise how topics are developed within a paragraph by plotting the sequence of topical subjects in a table format. Topical structure analysis is able to demonstrate the following features of a written text.

3.1. Topical progressions

Lautamatti (1987) identified three types of progressions of sentences, which are referred to as 'parallel', 'sequential' and 'extended sequential'. In parallel progression sentence topics are semantically identical; in sequential progression the comment of the previous sentences often appear as the topic of the next sentences; in extended sequential progression a parallel progression is provisionally interrupted by sequential progression (Connor and Farmer, 1990).

Those inter-sentential relations are actually illustrated by the following example in Lautamatti (1987):

(1)Newborn infants are completely helpless. (2)They can do nothing to ensure their own survival. (3)They are different from young animals. (4)Young animals learn very quickly to look after themselves.

In this example the topics (sub-topics) of sentences (1), (2) and (3) are identical, which indicated that these sentences are in the relation of parallel progression. On the other hand the topic of the sentence (4) is identical with the comment of sentence (3), which means that these two sentences are in the relation of sequential progression. Furthermore, if the topic of the fifth sentence comes

back with newborn infants, the relation is called extended parallel progression.

Topical structure analysis was experimentally employed to measure coherence and, thus, writing quality by Witte (1983b), Connor (1990) and Cerniglia (1990). The study in Witte (1983b) attempted to examine how holistic rating and topical structures are correlated. 48 argumentative essays written by freshmen which were holistically rated for overall quality by an experienced reader were later analysed in terms of their topical structures.

According to his research, both parallel and extended parallel progressions were more likely to appear in high quality-essays than in low-quality essays. This implies that the writers of high quality essays relied on a small number of sub-topics and more elaborately organised and developed those sub-topics into the content of a text with high degree of coherence.

On the other hand, the writers of low-quality essays showed the tendency to depend more significantly often on sequential progressions than those of high-quality essays. Their over-dependence on sequential progressions implies that they deviated from one sub-topic to another every time they started the next sentences with different sub-topics. That is to say, they did not have a consistent idea of the relations between sub-topics and consequently failed to create a discourse topic of the text with coherence.

The present study is going to employ topical structure analysis as a rationale for the analysis of coherence in the essays written by the subjects, because, unlike holistic evaluation and cohesive harmony index, it can directly measure coherence

of texts. It has another advantage. It can also measure not local but overall coherence of a text.

3.2. Comparison of patterns of topical progressions

A well-formed text ends to provide textual cues which make it easier to identify the discourse topic. It is desirable that explicit signals for the identification of the discourse topic should be embedded in subtopics. That is to say, subtopic should be ideally ordered in such a sequence that at least one of them can mark or signal the discourse topic. If this order is not explicitly achieved, the discourse topic must be inferred or constructed from the interaction of the reader's prior knowledge with the textual cues supplied by the text (Witte 1983b).

In order to illustrate the difference between a high quality essay and a low quality essay, the topical structure of an example of each is cited from Witte (1983a) and displayed in Figures 1 and 2. According to Lautamatti (1987), of all the subtopics in a text, the one which is mentioned first and occurs most frequently is the most important. This is because such a crucial subtopic provides readers with some clues which easily lead to the specification of the discourse topic. The topical structure depicted in Figure 1 enables a reader to pay a specific attention to the first topic, because the parallel progressions from 2-a through 2-c suggests that a consistent focus should be given on the subtopic by developing and extending it.

On the other hand, the low quality sample in Figure 2 begins with the long sequential progressions (3-a through 3-f). Sequential progressions which occur at lower levels of topical depth like this make it difficult for readers to distinguish between crucial and no-crucial subtopics. Such an overuse of sequential
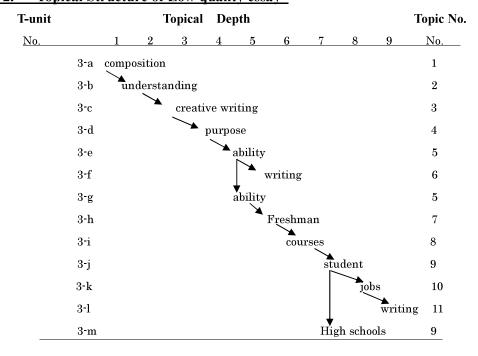
progressions can cause the lack of a clear focus on a specific subtopic.

Contrary to this, in Figure 1, the new subtopics which are introduced by the single sequential progression are followed by a series of parallel progressions (from 2-d through 2-f and from 2-1 through 2-k).　This indicates that the writer successfully develops or extends the subtopic once it is introduced.　This way of employment of the sequential progressions can also lead to the effective support of the primary subtopic, which is "aspect" in this sample.

Figure 1.　Topical Structure of High Quality Essay

T-unit No.	Topical Depth 1	2	3	Topic No.
2-a	aspects of composition courses			1
2-b	they			1
2-c	they			1
2-d		critics		2
2-f		some		2
2-g	aspects			1
2-h	aspect			1
2-i		teachers		3
2-j		Teachers		3
2-k		teachers		3
2-l			students	4
2-m		teachers		3
2-n	aspect			1

Figure 2.　Topical Structure of Low quality essay

T-unit No.	Topical Depth 1	2	3	4	5	6	7	8	9	Topic No.
3-a	composition									1
3-b		understanding								2
3-c			creative writing							3
3-d			purpose							4
3-e				ability						5
3-f					writing					6
3-g				ability						5
3-h					Freshman					7
3-i						courses				8
3-j						student				9
3-k							jobs			10
3-l								writing		11
3-m						High schools				9

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4 . METHOD

4.1. Backgrounds of the subjects

This section will briefly refer to the backgrounds of the subjects chosen for the present research. 35 Japanese university freshman students were chosen and each of them was asked to write a 200-word argumentative essays on the topic show below. Most of them were not taught how to organize a paragraph when they were in high schools. In a way they were literally 'brought up' by translation from Japanese into English. And in advance for the present research they were not given any instruction on topical structure analysis.

4.2. Procedure of the Research

In the present research 35 writings, which were about 200-word-length, were in the first place broken into T-units after they had been holistically evaluated. Secondly, the cohesive ties and coherence were analysed and sorted out into relevant categories. The frequencies of sub-categories of grammatical and lexical cohesion, mean length of T-units and error-free T-units and coherence scores which were calculated in terms of topical structure analysis were used as independent variables with a holistic rating as a dependent variable. The following sections will explain more in details how the research was conducted.

4.2.1. Writing Task

All the subjects mentioned above wrote argumentative essays on a given topic. The writing assignment, which is based on the idea of debate, asked the subjects to argue both for and against 'watching TV'. They were expected to write about their own ideas after the following opening paragraph. They were required to write about the advantages of watching TV in the second paragraph and about the disadvantage in the next paragraph.

> Every household in Japan owns a television, and it is one of the main sources to collect information. However, there are both advantages and disadvantages of television, as I shall describe in this short essay. First I will discuss some of the good points of watching television, and then go on to indicate some of the negative aspects.

The subjects were required to write these two paragraphs respectively in 100 words. The essay-length was determined based on the view put forward by Toyoda (1992), which says that what average high school students in Japan are ultimately expected to achieve as a goal for their writing class is the ability to produce a writing of about 200 words.

4.2.2. Holistic Evaluation

The holistic measure was adopted for the evaluation of the quality. The criteria used for scoring, which was originally invented by Cooper, is as follows:

Organisation	20 points
Ideas	10 points
Grammar and Usage	30 points
Spelling	10 points

(adapted from Cooper (1977))

Each essay was rated by two markers, who were actually an ALT and a JTE. The scores were adjusted so that they could be easily processed and compared with the scores of other indices. Actually they were divided by 10, and evaluated, based on a 1-to-7 scale

with "7" being the highest mark.

The notion of the holistic measure adopted for the present research was based an overall impression of the language, including the range and appropriateness of vocabulary use, the structure of sentences and paragraphs and correctness of grammar and spellings. Each of the individual mistakes was not penalised. Much emphasis was not given to contents of the essays because in the attempt to communicate some personal interests in the given topic is indirectly reflected an overall command of the language which each subject is supposed to possess. So language rather than content is the main concern in the rating measure for the present research.

4.2.3. Analysis of Coherence

The coherence measure used in the present study was topical structure analysis (Witte, 1983a). The analysis was conducted based on the topics in T-units instead of in sentences.

First, after each essay was broken into T-unit, the topic part and the comment part were respectively specified in it. The second step was to identify how the topics of the adjacent two T-units were semantically related to each other. The types of this semantic relationships between the T-units were classified according to the three categories briefly referred to in the previous chapter. They were actually 'parallel progression', 'sequential progression' and 'extended parallel progression'.

Thirdly, after the number of each progression was separately counted, the percentages of the frequencies of the three types of progressions were respectively calculated. Then the percentages of parallel and extended parallel progressions were added. Out of this score was subtracted the percentage of sequential progressions, the over-use of which is negatively regarded as a property of a low quality essay (Witte, 1983a). This figure was divided by 100 for the purpose of facilitation as the data in the analysis and was used as an independent variable in the research.

4.2.4. Graphical Analysis of Topical Progressions

The topical progression of each writing was visually indicated based on the similar diagrams employed in Witte (1983a, 1983b) and Connor (1984, 1990). Appendix 1-a and 1-b examined the way in which topical subjects form three different types of topical progressions.

The graphical depiction in the Appendix 1-a indicates that T-units 4-c and 4-d form a parallel progression, which is represented by a vertical line, and the topics of these five T-units are semantically identical. T-units 4-a through 4-c constitute sequential progressions, which are represented by diagonal lines, and the topic of each T-unit is different. T-units 4-h, 4-j and 4-q make up extended parallel progressions. This type of progression of T-unit topics is called extended because the progression of the same topic through the text leaves off and picks up again after several T-units' interval.

Another important feature depicted by topical structure analysis is the idea of 'topical depth'. It is determined by the number of different topics in the longest sequential progression or combination of sequential progressions.

5. Findings from Coherence Analysis

In comparison with the high contribution of cohesive ties to writing quality, coherence did not show significant

contribution (r=-0.17). This implies that coherence does not function as a valid criteria for writing quality. It was an unexpected result that coherence, which had been theoretically expected to have a positive influence on holistic evaluation, was not substantially related to writing quality.

The present research employed topical structure analysis to quantify coherence. According to Lautamatti (1987), discourse topic and its structure can be grasped chiefly through lexical cohesion. So it was easy to expect that coherence would significantly contribute to writing quality because it was thought to be equipped with an underlying force which is theoretically related to the validity of such sub-categories of lexical cohesion as indices for writing quality.

Actually the sample essays were ranked into three groups in terms of their holistic scores. Accordingly two groups, which were the highest and medium, consisted of 12 essays, and the rest of them formed the lowest group. The results of this analysis were presented in Table 1. As the figures in the table indicate, there were substantial differences recognised among the groups in the frequencies of the use of the three types of progressions.

In the case of the writings with lower holistic scores, the use of sequential progression showed high percentage (about 60%), while the percentage in the highest score samples was less than 30. Moreover, there was a significantly big difference in the use of parallel progression between the highest score samples and the rest. It can be inferred from those figures that the coherence in the sample essays might be influenced by some textual quality which could not be appropriately measured by topical structure analysis. One possibility is a negative transfer from Japanese language o make more thorough examination the sample essays were ranked into three groups in terms of their holistic scores. However, if there had been some interference caused by Japanese language, there should have been more salient gap between ALT's and JTE's marking scores.

One thing that is precise is that, as far as the present research is concerned, although coherence did not make a contribution to the measurement of quality of writing as a relevant index for it, it visualises ideal stream of logic and, thus, shows EFL learners how a paragraph should be organized. And the patterns of the topical structures of the sample writings with high scores have some similarity with those of the high-quality sample model given by Witte(1983). This may be due to lack of the instruction of topical structure analysis.

Table 1.

Relation of frequency of the use of three progressions to holistic scores

	Highest	Medium	Lowest
parallel progression	28.13%	28.26%	28.03%
sequential progression	60.11%	59.11%	60.41%
extended parallel progression	11.46%	12.66%	11.56%

6. Further analysis of the Topical Structures of Students' Writings

Both of the topical structures of the sample writings in Appendix 1-a and 1-b seem to share some similarities with the topical structure of the low quality essay in Figure 2 in the use of topical progressions. This means that, in spite of the relatively big difference in a holistic score, these two writings are equally of low quality in terms of their topical structures. In other words it might be implied that these two writings include some features peculiar to the Japanese people and they might not be accounted for by the topical structure analysis.

6.1. Use of Sequential Progressions

One of the similarities is that a long series of sequential progressions is employed at a higher level of topical depth, which implies that a couple of the T-units in the beginning of these writings provide readers with each different subtopic. The percentage of the sequential progressions which were used in the first 6 T-units of students' writings amounted to 81.3%. Naturally this digression makes it difficult for readers to be appropriately introduced to the logical streams of these writings, and thus distracts them from grasping the discourse topic. Probably the most important subtopic is buried in one of the sequential progressions.

It is an interest-provoking fact that Terashima (1986) refers to this difference concerning the notion of an introductory part of an essay between Western and Eastern people. He argues that for Western people the introduction of an essay must generally provide readers with the details of an overall organisation of the essay which includes reviews, writer's hypothesis, conclusion, etc. A writer simply restates the given topic, summarises or generalise the content of the topic

and in some cases reveals personal values and beliefs in relation to the essay (Kobayashi 1984). In this way the introduction functions as a logical precursor to facilitate a reading process in which readers have to follow topical development of the main idea. This suggests that the introduction should be in linear relation to the main part.

Contrary to this, according to Terashima (1986), in the Japanese people's mindset, the introduction is generally grasped simply as an opening, the function of which is simply to attract readers' attention. The border between the introduction and the body or main discussion is not distinct in the case of the essays written by Japanese people. There is almost no strong relationship to the development of the main idea in the next part of the essay. Readers are just led into the main discussion before they are aware of it. It seems that this structure is well exemplified and illustrated by the dependence on the overuse of sequential progressions at the beginning of the writings produced by the subjects (from 4-a through 4-c and from 5-a through 5-d in Appendix 1-a and 1b) .

6.2. Use of Parallel Progressions

The use of parallel progressions is not effective even in the sample given a high holistic score (6.5 out of 7). In the example of a high quality essay shown in Figure 1, a series of parallel progressions are generally used in two ways: to extend and elaborate on a specific topic which often develops into a discourse topic, and to support the discourse topic as in from 2-i through 2-k in Figure 2. This kind of use of parallel progressions can contribute to the development of the topical focus of the essay.

However, in both of the two sample writings in

Appendix 1-a and 1-b representing the results of the present analysis, parallel progressions took place only sporadically and in such a short sequence as in 4-c, 4-n, 5-d, 5-p, etc. Moreover, they were mostly used at a lower level of topical depth. This indicates the possibility that they were used in places which were less relevant to the discourse topics. This eventually makes it difficult for readers to identify them from the textual clues.

6.3 Use of Extended Parallel Progression

What is unique to the topical structures of the two samples in Appendix 1-a and 1-b is the way an extended parallel progression is used. In the case of the high quality essay shown in Figure 2, it typically appears after sequential or parallel progressions as in 2-g, 2-m and 2-n.

Evidently this indicates that writers of high quality texts more frequently return to the important subtopics after intervening sequential progressions. The greater frequency with which the high-score writers return to their most important subtopics seems to contribute to the logical organisations of their essays in the following two ways. It allows the writers to consistently follow the most important topics, and it also allows them to elaborate more on those topics on the uppermost level of topical depth. These effects help to maintain a consistent and clear focus, thus leading to the production of writings with high degree of coherence.

Conversely, both of the writers of the sample texts in Appendix 1-a and 1-b employed extended parallel progressions either at a lower topical depth or toward the end of their writings. Moreover, they abruptly appear and are not employed for the purpose of returning to the primary topics. The abrupt returns as in 4-h,

4-q, 5-n, 5-s and 5-q can be an impediment against the establishment of the topical focus. In the sample presented in Appendix 1-b, the writer successfully developed the topical focus on 'TV' at the higher level of topical depth. However, the inappropriate use of extended parallel progression in 5-n made the writer return to the topic, 'we'. In addition, another similar use of extended parallel progressions can be found in 5-s and 5-t. The employment of these extended parallel progressions turned out to be the cause for the blurred topical focus, because it formed the three sub-topical lines which proceeded toward the end of the texts. Needless to say, the topical structure including these 'parallel' sub-topical lines in the same writing makes it difficult or nearly impossible to identify the discourse topic of the writing. The similar tendency, though it is not so strong as in the low scored sample, can be also recognised in 4-h and 4-q in the high scored sample in Appendix 1-a.

Another characteristic in the use of extended parallel progressions can be discovered in the high scored sample. The writer employed them at the lower levels of topical depth (4-n). This made the writer develop subtopics, at even lower levels of topical depth, which were not crucial to the development of the discourse topic. Such elaboration of the subtopics at a lower level of topical depth also buries the most important topics introduced into the discourse, thus failing to highlight important topical development. This is also pointed out by Ishimaru (1982), which makes the argument based on the comparison of the topical structures of the sample writings produced by British native English speaking students and by Japanese learners of English. She also says that primary subtopics in British people's writings more frequently appear in the initial sentences

and are more frequently used, while in Japanese people's writings a larger number of subtopics are scattered all over the texts.

Finally, both of the high scored and low scored writings presented as samples in Appendix 1-a and 1-b share two features in common. One feature is that the plural subtopics equally developed through the text almost toward the end (e.g. 'to watch TV', 'TV', 'we' in Appendix 1-b, and 'we' and 'children' in Appendix 1-a). The other is the elaboration of subtopics which were not relevant to the development of the discourse topic (from 4l through 4-o and from 5-n through 5-v). It can be said that these features may not be irrelevant to graphically described 'circular' patterns of the written discourse produced by Oriental people.

If these two sample texts are equally judged lacking in coherence due to those features mentioned above regardless of the gap in the holistic scores, it might plausibly be said that the logical stream in Oriental written texts resists this kind of coherence measurement.

7. Conclusion

The present paper offered the future perspective that the instruction of topical structure analysis should be included in the methodological cycle of writing class, and it should help students produce coherent writing. The improvement in students' writing quality and the positive opinions of the students on the implementation of topical structure analysis into a writing class demonstrated the benefits of explicit instruction of writing strategies to the EFL students. The results suggested teaching topical structure analysis as a self-revision strategy is effective for improving writing coherence and producing independent and autonomous EFL student writers.

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Appendix 1-a

High-quality writing sample　(holistic score 6.5 out of 7)

T-unit No.	Topical Depth								Topic No.
	1	2	3	4	5	6	7	8	
4-a	The advantage								1
4-b		Satellite…							2
4-c			television						3
4-d			Television						3
4-e				we					4
4-f					our hobby …				5
4-g						this			6
4-h				we					3
4-i					The disadvantage				7
4-j				We					3
4-k					Appearance				8
4-l						some children			9
4-m							such children's eyesight		10
4-n						the children			9
4-o						they			9
4-p							Many adults		11
4-q				we					3

APPENDIX　1-b

Low-quality writing sample（Holistic score 2. 5 out of 7）

T-unit No.	Topical Depth					Topic No.
	1	2	3	4	5	
5-a	to watch TV					1
5-b		TV				2
5-c			Movie			3
5-d				News		4
5-e				News		4
5-f					to borrow	5
5-g		TV				6
5-h			I			7
5-i		TV				6
5-j			We			8
5-k		TV				7
5-l			disadvantage			9
5-m				eyesight		10
5-n			we			8
5-o				horror movie		11
5-p					some people	12
5-q					they	12
5-r		TV				7
5-s	watch TV					1
5-t			we			7
5-u				our body		13
5-v			we			8