

Students' Doing Thematic Development And Concept Map Analyses To Enhance EFL Students' Textual Competence

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Abstract: Organizing and developing ideas in writing a text are problematic for many EFL learners although they have learned English for years. This challenges EFL teachers to design innovative learning techniques to solve the problem. This study investigated the students' doing thematic progression and concept map analyses as learning techniques. It aims at finding out the effectiveness of the techniques to develop the EFL students' textual competence to write argumentative texts, and to finally develop the genre-based approach to essay writing. The students' textual competence means their competence in organizing ideas at the macro (text) and micro (paragraph) levels. This study is an experimental study done in a classroom context. Seventy EFL students were involved in this research; thirty five as a control group, thirty as an experimental group. The experimental group was exposed to texts and did thematic progression and concept map analyses, while the control group did not. The research results show that the students' doing concept maps and thematic development analyses are effective to enhance the students' textual competence since these activities develop the students' critical thinking skills and deep understanding. Thus, the researchers recommend that English teachers, with respect to developing the writing skills, consider the students' doing thematic development and concept map analyses as an alternative strategy to enrich the teaching-learning process.

Keywords: thematic development, concept map, critical thinking, textual competence.

I. Introduction

Communicating thoughts is people's daily practices. Arguing and persuading are regular features of people's daily life. We need arguments to support our desire to convince others of our opinions involving a discursive practice called argumentative discourse. In language teaching contexts, it is, therefore, important for EFL students to learn argumentative discourse to be able to achieve their communicative purposes. Moreover, at college level, it is arguably true that they are most often required to write argumentative texts to complete their assignments. Essay writing skills have thus become a parameter for the

students' success with language at school (Schleppegrell, 2004).

After years of learning English, ideally, tertiary EFL learners have been able to write fluent arguments, however; things are quite otherwise. It turns out many students found it problematic to organize and develop ideas. Very often, the students did not further write about the controlling ideas which have been written in the thesis statement, and/or further wrote about the controlling idea(s) but were not thoroughly developed. Similar problems were also faced by other teacher-researchers as highlighted below.

Kilic et. al. exploring the organization of the ideas of 81 Turkish learners' argumentative

texts revealed that the students were not as skillful as they ought to be in a topical organization (Kılıç et al., 2016). Darmila's et al. study investigating 16 Universitas Negeri Padang (Indonesia) students' discussion texts found out that the students' capability in writing discussion texts was still low, viewed from the texts' thematic progression. The students failed to develop the information and to provide logical arguments (Darmila et al., 2020). Similar research conducted in China found out the EFL learners' writing difficulties to present messages smoothly to unfold an event (Jing, 2015). A study on 114 English texts by Thai students identified the thematic progression problems faced by the students; they faced difficulties in organizing clauses as a message (Arunsirot, 2013). A study on 30 argumentative texts by Universitas Negeri Yogyakarta (Indonesia) students revealed the weak arguments of the students' texts due to insufficient reasons and evidence (Widyastuti, 2018). These matters will affect on the students' text coherence because of the lack of relationship among the features of a text that in turn will impact on the text's ideas continuity. A previous research on essay quality found out that an assessment of a text quality is more laid on the relationships among the features of a text (Crossley et al., 2022). This implies the importance of a text organization.

The lack of ideas continuity of a text will reduce its textual meaning. Language construes three strands of meaning: ideational, interpersonal, and textual meanings. In communicating, we convey our experience, interact with our interlocutors, and organize our expression into a coherent text (Matthiessen, 1995). Writers of argumentative texts, therefore; need critical thinking to convince readers, to organize arguments systematically to support their thesis. Critical thinking includes analysis, interpretation, evaluation, inference, explanation, and self-regulation (Wallace & Wray, 2016) (Lipman, 2003). Thus, an analysis activity is one way to develop critical thinking skills. Previous research reveals the important role of critical thinking for the students for the

sake of effective seeking information, effective learning, and for cognitive development (Nor et al., 2022).

Theoretically speaking, students' thinking task to do text analysis, such as to carry out thematic development and concept map analyses can develop their critical thinking skills, which contributes to their competence to write critical or argumentative writing. Thematic development is how the theme of a clause is created (Halliday, 1994). A concept map is a technique for displaying different concept nodes (Novak, 1981). Coherence in writing is established if writers can establish a relationship among the underlying semantic features of a text and its concepts (Almaden, 2006).

Doing text analysis means reading critically which involves (1) examining the claims and the supporting points proposed, (2) reading to find a deep understanding, (3) analyzing and evaluating the text, (4) making a judgment about a text (Wallace & Wray, 2016). EFL students' critical reading skill will enhance their critical writing skills.

The reasons above underlie this study aiming at justifying whether or not the students' doing thematic progression and concept map analyses as learning techniques can develop their textual competence in writing an argumentative discourse. Textual meaning is among others realized by theme development and flow of ideas in a text. This study focused on textual meaning. Textual competence is the competence to realize the textual meaning, to organize ideas into a cohesive and coherent text (Matthiessen, 1995).

Previous studies on thematic progression and flow of ideas of argumentative writing are among others as follows. A study on thematic progression patterns realized in expository English and Indonesian texts produced by undergraduate students revealed the use of reiteration, zigzag, and multiple theme patterns in the data (Undayasari & Saleh, 2018).

A study on topical organization of Turkish EFL learners' argumentative essays, applying Topical Structure Analysis (TSA)

found out that the students simply employed parallel and sequential patterns; they used less extended progression types (Kılıç et al., 2016).

Research on one of the best undergraduate research reports in a college in Indonesia revealed that the theme reiteration pattern is the most dominant. This pattern is used for the consistent focus, to centralize the point of discussion in the text (Gunawan & Aziza, 2017).

A study on Thai EFL students' compositions revealed the use of reiteration, zigzag, and multiple or split rheme patterns. The use of multiple themes or split rheme was dominant. (Arunsirot, 2013).

The previous studies above investigated the thematic development of argumentative writing to find out the types of thematic development employed, to know the text coherence. Different from the previous studies, this current study investigated the effect of the students' doing thematic progression and concept map analyses toward their textual competence in writing argumentative writing. Thus, the students' doing thematic progression and concept map analyses here is a learning strategy, learning techniques.

To our knowledge, none of the previous studies investigated concept map analysis as a learning strategy; even the studies on concept maps are still rarely conducted. Here are some previous studies on the concept map. John Unger's study found out that gesture and concept maps worked together to support the students' speech. The concept map guided the speech, while the gesture created an image of a substance without form (Unger, 2007). The studies on concept mapping as prewriting activities found out that concept mapping improved the students' writing ability in terms of generating, organizing, and associating ideas; it was effective to develop the students' writing skills (Pishghadam & Ghanizadeh, 2006) (Al-Shaer, 2014).

From the explanation in the previous section above, the novelty of this study is that it explored the students' activities in analyzing thematic progression and concept maps of a text to develop their textual competence.

Theoretically, this study is significant to develop the theory of Systemic Functional Linguistics, to develop the theory of textual metafunction, especially to enrich the genre-based approach derived from Systemic Functional Linguistics (SFL). In this current study, the teacher-researchers taught the research participants using a genre-based approach. In the modeling stage, the participants were not only exposed to the model texts but also did the thematic progression and concept map analyses. Thus, this study develops the modeling stage of the genre-based approach. Pedagogically, this study can develop the techniques for teaching writing skills. The aim of the study is to know the effectiveness of thematic progression and concept map analyses to develop the EFL students' textual competence to write argumentative texts.

2. Method

This study belongs to discourse analysis, focused on investigating the students' textual competence. It was an experiment designed to compare the textual competence of the students who did thematic progression – concept map analyses and the textual competence of those who did not do thematic progression – concept map analyses. Seventy students majoring in English participated in this study. They were 18-20 years old, having learned English for approximately 8 years

2.1 Research Procedure

The researchers carried out the study in a classroom context in a Genre-based writing class, in Stikubank University (UNISBANK) Semarang - Indonesia. The teaching and learning process was carried out on blended mode, offline and online teaching. Moodle or Learning Management System (LMS) was adopted by the researchers' institution to carry out online teaching and learning.

Two classes were involved in this study, experimental and control groups. To know whether the two classes had equal competence, pretest was given before the treatment. They were asked to write one-paragraph text with

their topic. Afterwards, the teacher taught both groups using the genre-based approach with the following procedure (1) Building the context, (2) Modeling, (3) Joint construction of the text, (4) Independent construction of the text (Feez & Joyce, 1998).

The difference in the learning activities of both groups was only in the modeling stage. The experimental group was exposed to texts and did thematic progression and concept map analyses, while the control group did not. In the end, the researchers compared the average of the two groups' scores to find out whether or not the score difference was significant.

2.2 Data Collection and Data Analysis

The data of the study were the EFL students' scores of their writing products, i.e. the argumentative writing produced at the 'Independent construction of the text' stage, done offline with the strict health protocol, with a familiar topic provided by the teacher. This is to make sure that they wrote their texts and they did not have difficulty with the topic. This is an attempt for the sake of validity and reliability.

In the process of scoring, the researchers analyzed each text using topical analysis (D'Angelo, 1994) and textual analysis (Thematic development) (Paltridge & Burton, 2000). To examine the text at the macro level, we identified: (1) the discourse topic in the thesis statement, (2) each paragraph topic, (3) the overall topic unity by examining the relatedness of the title, the discourse topic, the topics of the body paragraphs, whether or not they were coherently related to one central issue.

To examine the text at the paragraph or micro level, the researchers applied topical/

thematic development analysis. The procedure is identifying (1) the topic sentence and its controlling ideas, (2) the development of the controlling ideas in the supporting sentences. To find out whether or not the score difference between the control and experimental groups was significant, the researchers applied t-test analysis.

2.3 Scoring rubric

The researchers applied a scoring rubric to score the students' textual competence at the macro and microstructure. The students' textual competence at the macro level was measured by the connectedness among the topics of the paragraph(s) in the introduction, the paragraphs in the body, and the paragraph(s) in the conclusion.

The students' textual competence at the micro-level was measured by examining the flow of ideas organization in each paragraph, the fullness of each paragraph development. It was seen from the level of thorough development of the controlling ideas in a topic sentence. Based on the dimensions mentioned above, the researchers made a scoring rubric to score the students' textual competence. Thus, the dimensions of the scoring rubric involve 1) the organization of the idea at the discourse level, 2) the organization of the idea of each paragraph.

To guarantee that the instrument to collect the data was valid and the data elicited were valid, the researchers consulted the scoring rubric to an expert of applied linguistics, to validate the scoring rubric. Here is the scoring rubric:

Table 1. Scoring rubric for measuring EFL students' textual competence in writing an Argumentative text

No.	Criteria			
Aspects	Excellent to good (Thoroughly)	Good to adequate (Fluent organization)	Adequate to fair (Partly fluent organization)	Unacceptable (Not fluent organization)

		fluent organization)			
1	Ideas organization at the text level (30%)	The thesis statement is relevant to the title. 80 -100 % of the paragraph topics are relevant to the thesis statement. (24-30)	The thesis statement is relevant to the title. 60 -79% of the paragraph topics are relevant to the thesis statement. (17-23)	The thesis statement is relevant to the title. 30 - 59 % of the paragraph topics are relevant to the thesis statement. (10-16)	The thesis statement is (ir)relevant to the title. 0 – 29 % of the paragraph topics are relevant to the thesis statement. (3-9)
2	Ideas organization at the paragraph level (70 %)	80 -100 % of the topics of the paragraphs are fully developed, 15-20 % of the paragraph topics are partly developed. (60-70)	60 -79% of the paragraph topics are fully developed, 30 – 40% of the paragraph topics are partly developed. (49-59)	30 – 59% of the paragraph topics are fully developed, 55– 70% of the topics of the paragraphs are partly developed. (38-48)	0 – 29% of the paragraph topics are fully developed, 40-100% of the paragraph topics are partly developed. (27-37)

Note:

1. A fully-developed paragraph is a paragraph whose controlling idea(s) are thoroughly developed, having supporting ideas needed to fully develop the topic sentence and having minor supporting sentences to explain each major supporting sentence.
2. A partly-developed paragraph is a paragraph whose controlling idea(s) are partly developed; some major supporting sentences are not explained further.
3. An undeveloped paragraph is a paragraph whose controlling idea(s) are undeveloped; most major supporting sentences are not explained further.

Grade classification:

85-100: Thoroughly fluent organization

71-84 : Fluent organization

61-70 : Partly fluent organization

Table 2. The pre-test scores

-60 : Not fluent organization

2.4 Hypothesis

Null hypothesis:

There is no textual competence difference between the students who did thematic progression, concept map analyses, and those who did not do thematic progression, concept map analyses.

3. Results

The results of the pretest show that both groups have equal writing competence; the average score of the experimental group is 62.9, while that of the control group is 62. The paragraph the students wrote was assessed in terms of the topic sentence and its development.

Experimental group			Control group		
No.	Research participants	Grade	No	Research participants	Grade
1	Student 1	65	1	Student 1	64
2	Student 2	67	2	Student 2	63
3	Student 3	59	3	Student 3	65
4	Student 4	60	4	Student 4	62
5	Student 5	61	5	Student 5	70
6	Student 6	70	6	Student 6	60
7	Student 7	62	7	Student 7	60
8	Student 8	62	8	Student 8	61
9	Student 9	71	9	Student 9	62
10	Student 10	61	10	Student 10	64
11	Student 11	63	11	Student 11	64
12	Student 12	59	12	Student 12	61
13	Student 13	60	13	Student 13	58
14	Student 14	70	14	Student 14	63
15	Student 15	62	15	Student 15	59
16	Student 16	64	16	Student 16	62
17	Student 17	65	17	Student 17	64
18	Student 18	62	18	Student 18	61
19	Student 19	62	19	Student 19	62
20	Student 20	60	20	Student 20	63
21	Student 21	64	21	Student 21	62
22	Student 22	63	22	Student 22	63
23	Student 23	62	23	Student 23	61
24	Student 24	62	24	Student 24	61
25	Student 25	60	25	Student 25	60
26	Student 26	63	26	Student 26	63
27	Student 27	63	27	Student 27	61
28	Student 28	62	28	Student 28	61
29	Student 29	62	29	Student 29	61
30	Student 30	64	30	Student 30	62
31	Student 31	61	31	Student 31	62
32	Student 32	63	32	Student 32	60
33	Student 33	61	33	Student 33	62
34	Student 34	62	34	Student 34	63
35	Student 35	65	35	Student 35	60
Average		62.9	Average		62

The table below presents the students' post-test writing scores involving the total score, the

score at the paragraph level, and the score at the paragraph level.

Table 3. The EFL students' textual competence in writing argumentative discourse

Experimental group				Control group			
No.	Research participants	Grade	Text level Par. level	No.	Research participants	Grade	Text level Par. level
1	Student 1	80	30	1	Student 1	71	24

			50				47
2	Student 2	86	30	2	Student 2	67	22
			56				45
3	Student 3	69	26	3	Student 3	71	22
			43				49
4	Student 4	75	22	4	Student 4	66	20
			53				46
5	Student 5	76	26	5	Student 5	82	30
			50				52
6	Student 6	85	30	6	Student 6	67	24
			55				43
7	Student 7	77	26	7	Student 7	65	20
			51				45
8	Student 8	80	30	8	Student 8	66	20
			50				46
9	Student 9	87	30	9	Student 9	68	22
			57				46
10	Student 10	70	20	10	Student 10	72	24
			50				48
11	Student 11	78	26	11	Student 11	72	22
			52				50
12	Student 12	67	20	12	Student 12	66	20
			47				46
13	Student 13	72	20	13	Student 13	65	20
			52				45
14	Student 14	85	30	14	Student 14	66	20
			55				46
15	Student 15	74	24	15	Student 15	65	20
			50				45
16	Student 16	75	25	16	Student 16	68	23
			50				46
17	Student 17	76	24	17	Student 17	68	22
			52				46
18	Student 18	78	25	18	Student 18	68	21
			53				47
19	Student 19	80	27	19	Student 19	70	23
			53				47
20	Student 20	78	26	20	Student 20	70	23
			52				47
21	Student 21	80	28	21	Student 21	67	21
			52				46
22	Student 22	78	27	22	Student 22	69	22
			51				47
23	Student 23	77	27	23	Student 23	69	22
			50				47
24	Student 24	77	25	24	Student 24	67	21
			52				46
25	Student 25	75	26	25	Student 25	69	22

			49				47
26	Student 26	80	27	26	Student 26	69	21
			53				47
27	Student 27	80	28	27	Student 27	71	24
			52				47
28	Student 28	75	25	28	Student 28	71	24
			50				47
29	Student 29	78	25	29	Student 29	66	20
			53				46
30	Student 30	78	27	30	Student 30	67	21
			51				46
31	Student 31	75	25	31	Student 31	69	22
			50				47
32	Student 32	76	26	32	Student 32	69	22
			50				47
33	Student 33	76	26	33	Student 33	67	21
			50				46
34	Student 34	77	25	34	Student 34	70	23
			52				47
35	Student 35	79	26	35	Student 35	67	22
			53				46
		77.4	26			68.6	22
			51.4				46.6

Having known the average score of the control and the experimental groups, t-test was calculated. T-test score indicates that the t-observed is 4,340, higher than the t-value from the t-table at the level of significance .01, namely 2.624. This means that the null hypothesis is rejected. This means that there is a significant difference between the students who did thematic progression, concept map analyses, and those who did not do thematic progression, concept map analyses. To verify the results, interviews with some students were also carried out.

4. Discussion

Since the students participating in this study had equal writing competence before the research, thus, their learning activities and learning experience differences of both groups had resulted in significantly different learning outcomes as explained below.

4.2.1 The students' learning activities and learning experience

Both groups joined a Genre-based writing class aiming at being able to write texts of various genres. Based on the syllabus, three of the teaching materials are Analytical exposition, Hortatory exposition, Discussion; the three genres belong to an argumentative genre. The time allotment provided to teach those genres is 6 X 100 minutes for 6 class meetings, i.e. two meetings for each.

The teacher taught both groups using a genre/text-based teaching method. The reason is that the genre-based approach aims at guiding the learners to achieve communicative competence. EFL learners aim to be able to communicate in the target language. Communicating means producing a text, spoken or written. Thus, texts should be the center of ELT (Thornbury, 2005) (Agustien, 2020). It is the genre-based approach that the researchers aim to develop, especially the modeling stage,

namely by supplementing it with thematic progression and concept map analyses.

To reveal the effectiveness of the students' doing thematic progression and concept map analyses as a learning technique, the teacher supplemented thematic progression and concept map analysis activities to the experimental group, while she did not do it to the control group. As text-based teaching proponents suggest, the teaching procedure is as follows: (1) Building the context, (2) Modeling, (3) Joint construction of the text, (4) Independent construction of the text.

The teaching difference was in the students' learning activities in the modeling stage. In this stage, the teacher exposed the experimental group with texts, then, asked them to 1) identify the generic structure and linguistic features, 2) do the thematic progression and concept map analyses, while the control group did not do the thematic progression and concept map analyses.

As explained before, the students did blended learning mode: 50% offline learning and 50% online learning. In the online learning mode, the students attended virtual meeting classes via zoom or g-meet. Besides the virtual meeting, the students also had to access our e-learning system weekly according to their schedule. Each class session comprised at least 4 parts (1) learning text materials, (2) chatting and forum to have a discussion and to get feedback on the students' performance for the ongoing week, (3) doing assignments within a certain period, (4) doing quizzes to strengthen the students' understanding.

The experimental and control groups had different learning activities which means that they had a different learning experience. The assignments given to the students were also different. The teacher assigned the students of the experimental group to find a text and to do the thematic progression and concept map analysis, while she asked the students of the control group to find a text and to analyze its schematic structure and its linguistic features. The teacher utilized, adapted texts taken from

various sources, and exposed the texts to the students.

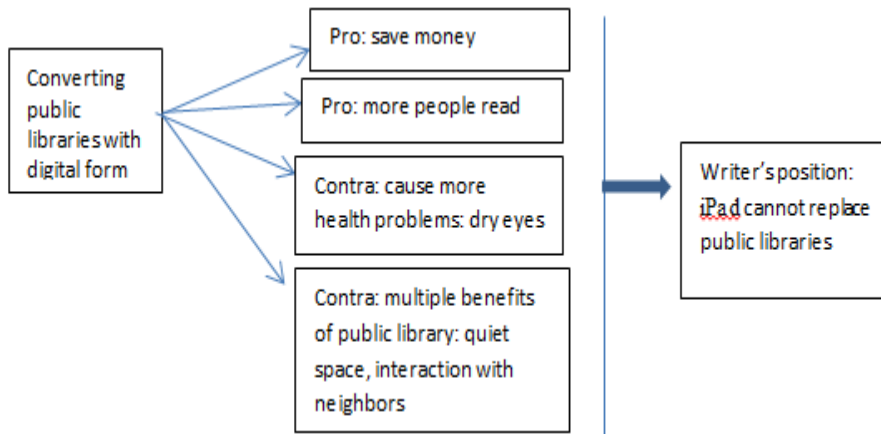
In the Building the context stage, the learners built the knowledge of the topic in the text, which could enrich their knowledge of what to write. Knowing what to write will facilitate the writing process. The activities in this stage function as an apperception to attract the students and to activate the students' previous knowledge. Explicit teaching about the language features was also done in this stage. This is to prepare the students before they are exposed to the model text.

In the Modeling stage, the learners built their knowledge of the text type or genre that they would write. The teacher presented the model text based on the notion that writing is imitating (Badger & White, 2000). Analyzing the generic structure and the linguistic features of a genre is a standard activity in the Modeling stage. However, to make them aware of the organization of the idea of the text at the macro and micro levels, the experimental group also did concept map analysis and thematic development analysis. Thus, the text functions as an input to learn the schematic structure, the linguistic features, and to practice text analysis.

In drawing a concept map, the students firstly did a topical analysis which helped them to find hierarchical concepts or propositions or topics: discourse topic, paragraph topics, and sentence topics. A concept map shows a relation among ideas or concepts by drawing a visual connection. The concept map is composed of concepts enclosed in circles or boxes, and connecting lines showing the relation among concepts (Novak & Cañas, 2008). It is argued that the advantage of drawing a concept map is to organize information, and for successful understanding of a text. With the visual representation of keywords and the relationship, the students can identify the main issues of the text. Evidence shows that the use of a concept map strategy in writing tasks is effective (Talebinezhad & Negari, 2007).

Here is an example of a concept map made by student 9:

Text 1 - Title: Pros and Contras of Substituting Public Libraries with iPad with an e-reader Subscription



The concept map above clearly illustrates the topics or concepts of the text and the relationship among the concepts. This map illustrates the discourse topic and subtopics and the writer's opinion concerning the issues. This map is more like a skeleton of the text.

After doing the concept map analysis of the whole text, the students analyzed the thematic development analysis at the paragraph level. Firstly, the students analyzed the first paragraph to identify the thesis of the argumentative text and the controlling ideas to be developed in the following paragraph. They bolded the thesis and underlined the controlling

ideas. Then, they analyzed the thematic development of the second and the other paragraphs. This is to find out whether the controlling ideas in the first paragraph are all developed and whether each paragraph is fully or partly developed.

Here is an example of thematic development analysis made by student 1:

Text 2 - Title: The Importance of Eating Breakfast (Adapted from <http://britishcourse.com/hortatory-exposition-text-definition-generic-structures-purposes-language-features.php>)

Paragraph 1

A lot of people, especially young people, go through the day without having breakfast. Many people believe that it is not necessary, or they say that they don't have time for that, and begin their day with no meal. I believe that **everyone should eat breakfast before doing their activities because it is important for health, energy, and to avoid disease.**

Paragraph 2

Theme	Rheme	Note
The first reason why you should eat breakfast before going to school	<u>is</u> for your health .	Topic sentence
When you skip breakfast and go to school, you	<u>can</u> get disease and not healthy to have an empty stomach all day long.	Major supporting sentence
To have an empty stomach	makes us hungry and cannot concentrate	Minor supporting sentence
This	can disturb our activity	Minor supporting sentence

Paragraph 2 develops the controlling idea of 'health'. The figure above shows how the controlling idea is developed. The student also mentioned the pattern of the thematic progression. The thematic progression reflects

theme reiteration pattern and the zigzag linear theme pattern. The theme of the second clause repeats the theme of the first clause. This is called theme reiteration pattern. The rheme of the second clause becomes the theme of the

third clause. Then, the rheme of the third clause becomes the theme of the fourth clause. This pattern is called zigzag linear theme pattern’.

After finishing the Modeling stage, the students and the teacher constructed a text together. Here, the teacher played a role as an expert and as a facilitator who provided explicit teaching and helped the students during the process of writing. The teacher reduced her help gradually until the students could write a text independently. This is based on Vygotsky's socio-cultural approach, that language learners need various scaffolding activities (Vygotsky, 1994).

In the last stage, i.e. the Independent construction of the text, the students wrote a text independently without the teacher's help after passing various scaffolding activities. The teacher asked them to write their opinion concerning their attempt, as prospective teachers, to succeed in English teaching in Indonesia. The researchers used these writing products as research data.

4.2.2 Doing concept map and thematic development analyses to develop EFL students' textual competence

The research findings revealed that the strategy of doing concept map and thematic development analyses was effective to develop the students' textual competence in writing an argumentative text. There was a significant difference in the textual competence of the students who did concept map and thematic development analyses and those who did not do it. The experimental group achieved the average grade of 77.4 classified as a fluent organization, while the control group achieved 68.6 classified as a partly fluent organization.

This means that the learning techniques facilitate the students to produce a coherent text. Almaden explains that continuity of sense or flow of ideas is the foundation of coherence. Without continuity, a text is difficult to be understood by the reader. A less coherent text can be understood by the readers or listeners with more struggle, while a more coherent text can be understood by the readers or listeners

with less struggle. Coherence in writing is established if writers can establish a relationship among the underlying semantic features of a text and its concepts (Almaden, 2006).

This research finding is similar to Pishghadan's and Ghanizadeh's study concluding that concept mapping enhanced the students' ability in terms of generating, organizing, and associating ideas (Pishghadam & Ghanizadeh, 2006). Similarly, Al-Shaer's study revealed the effectiveness of concept mapping as a prewriting strategy to develop the students' writing skills (Al-Shaer, 2014). This current study also strengthened the previous studies revealing that the teaching of thematic progression built the students' meta-knowledge of coherence and helped them aware of the patterns of ideas flow in a composition (Jing, 2015).

The students' textual competence in this current study means their competence in organizing ideas at the macro and micro level/structure. The term macrostructure refers to the organization of the idea at the level of discourse, the connection among the parts of discourse: title, introduction, body, and conclusion. Microstructure refers to ideas organization in the paragraph, the connection between sentences at the paragraph level. In scoring the students' work, the researchers only focused on the organization of the idea, ignoring the other features such as grammar, mechanics since this study only focuses on textual competence.

The effectiveness of doing the concept map and thematic development analyses is that text analysis develops one's critical thinking. Doing text analysis means reading critically with a goal for deep understanding. It includes the activities of examining, evaluating, inference, judging (Wallace & Wray, 2016). It is a thinking task enabling the students to find and develop their academic voices through the process of reflecting, note-making, reading, writing (Asraf et al., 2018). These activities will lead the students to be critical readers. And this is important in language teaching as also suggested by Zuhana Mohd Zin & Wong Bee Eng based on their study that teachers rethink critical reading instruction to foster the students'

positive critical thinking habits (Zin & Eng, 2014).

The students' learning experience in the process to make the concept map of a text, to find the pattern of thematic development enhances their critical writing skills since in analyzing the text, the students judge, evaluate, and establish logical relationships among ideas or information. Such ability is important to develop language competence, especially to construct arguments. Thus, critical thinking is an integral part of argumentative writing (Widyastuti, 2018) (Corcelles & Castelló, 2017) (Nurcaya & Imam Agus Basuki, 2022)

Critical readers will apply their critical spirit to construct a text. They know where to put the main idea, where to put the supporting ideas. They will arrange the arguments systematically to support their thesis to convince the readers. The interview with some research participants found out that their analysis activities and experience had increased their self-confidence and motivation although firstly they felt hard and reluctant to do the text analysis. This feeling of self-confidence and motivation also contribute to their writing performance as also found out in Sahril's and Weda's study that self-confidence, beliefs, and motivation are important to develop students' writing competence (Sahril & Weda, 2018). The following is a further discussion about the empirical findings of why a concept map and a thematic development analysis as a learning technique can develop the EFL students' textual competence at the macro and micro levels.

4.2.3 Concept map analysis to develop students' textual competence at the macro level

To draw a concept map, to visualize the relationships among concepts, the students need to firstly do topical analysis to identify the hierarchical topics of a text, i.e. the discourse topic and subtopics. The activities of identifying the topics or keywords of a text and the process of drawing a map activate the learners in the learning process besides it also deepens their understanding of what they have read. John

Unger found out that concept maps became a crucial part of the students' thinking (Unger, 2007). Furthermore, this makes them aware that a text has a skeleton or outline and that to achieve a communicative purpose a writer needs to pass through stages. This strengthens their understanding of the generic structure of a text. Eggins explains that genres employ stages to achieve goals. The reason why genres have stages is that we cannot make all the meanings we want to at once. Genres typically move through stages to a point of closure (Eggins, 1994).

Analyzing an argumentative discourse makes them aware that as a genre, an argumentative text has stages. To convince the audience of a point of view, a writer should pass the basic stages: thesis and supporting arguments (Richardson, 2006).

The activities to identify the hierarchical topics of a text impact the students' awareness to outline the writing process, and in turn, this develops their competence at organizing ideas at the discourse level. The interview with 5 students from the experimental group revealed that they were aware of the importance of reserving time to make an outline before starting writing to guide them in the writing process. An outline is like a skeleton. If we have got the skeleton, so we just need to fill it with the flesh.

The research results revealed that the experimental group members had better competence in organizing the ideas at the text level than the control group members did. The average score of the experimental group members is 26, while the average score of the control group members is 22. In this research, the scoring percentage of ideas organization at the text level is 30%, less than the scoring percentage of ideas organization at the paragraph level because the scoring only covers the relatedness of the title, the discourse topic (thesis), the topics of the body paragraphs, whether or not they were cohesively and coherently related to one central issue or topic.

For the objective scoring, the raters did a topical or organizational analysis of the whole

text. They examined (1) the discourse topic, what the text as a whole was about, usually stated in the thesis statement, (2) the topic of each of the body paragraphs, (3) the unity of the text by examining the relatedness of the title, the discourse topic, the topics of the body paragraphs. This is important because texts are hierarchically groups of propositions or topics: discourse topic, paragraph topics, and sentence topics.

The activities in concept map analysis also impact on the students' competence to write a text having situational coherence and generic coherence. A text has situational coherence when the interlocutor can identify the field, mode, and tenor of the text. A text has generic coherence when the interlocutor can recognize the generic structure of the text and can identify it as an example of a genre (Eggins, 1994: 87).

Text 3:

Title: Making English Teaching Interesting

Paragraph 1: Thesis

The way English is learned and taught should be interesting.

Paragraph 2: Sub topic

The use of digital technology in the classroom is important.

Paragraph 3: Sub topic

Teacher should use appropriate method.

Paragraph 4: Sub topic

The government should have policy to provide facilities.

Paragraph 5: Sub topic

Teachers need to be trained and re-trained to meet the changing language learning needs of their students

Text 4:

Title: The Attempts as a Teacher to Succeed the English Teaching in Indonesia

Paragraph 1: Thesis

The learner's lack of motivation becomes one of the primary problems of English language learning.

Paragraph 2: Sub topic

Teachers should be prompters for their students; they should push their students to achieve their goals

Paragraph 3: Sub topic

Being close with the students is also an important thing for the teacher.

Paragraph 4: Sub topic

Good teachers should be excellent listeners.

Paragraph 5: Sub topic

Students also need to be given grades or scores for what they have done, and teachers need to tell students how well they have done.

Texts 3 and 4 above reflect the topic coherence; the title, thesis statement, and the sub-topics in the body paragraphs discuss one central issue. The hierarchical topics of the two texts are

Most students of the experimental group were able to write a coherent text: the topics of the body paragraphs were relevant to the thesis statement and the title. The text is related to one central issue or topic. Thus, the text has a clear context of situation. Reading the text, the reader will be able to identify the subject matter talked about in the text, the role of the writer, and the channel of communication. This strengthens the findings of the previous studies that concept map has an effect on the writing process (Freeman, 2002) (Al-Shaer, 2014) and that the use of concept map strategy in writing tasks is effective (Talebinezhad & Negari, 2007). The following are examples of hierarchical topics of argumentative texts written by students 6 and 11 (the results of a rater topical analysis), presented (unedited).

clear. The texts also have a clear context of situation. The following is a detailed analysis of the texts.

Analysis of Text 3:

The discourse topic is 'interesting English teaching'. The student formulated the topic into the title 'Making English Teaching Interesting'. He also presented the discourse topic in the thesis statement in the first paragraph 'The way English is learned and taught should be interesting'. The controlling idea of the thesis statement is 'interesting'. Then, the student clarified the controlling idea 'interesting' in the following paragraphs: the use of digital technology, the use of an appropriate method, providing facilities, teacher upgrading. Reading the text, the reader will identify that the text is about 'interesting English teaching'. The writer plays a role as an expert talking to the teachers and the government in a formal situation.

Reading the text, the reader will recognize that the text is a hortatory exposition text. In writing a hortatory exposition text, a writer will firstly analyze, interpret, and evaluate the world around him. Based on the evaluation, he will make arguments to propose recommendations. The generic structure of an argumentative text is Thesis Statement ^ Argument ^ Recommendation (Derewianka, 2015) (Gerot & Wignell, 1995).

The word should in the thesis 'The way English is learned and taught should be interesting' implies that it is a hortatory exposition text; there is a gap between the ideal teaching practice and the actual teaching practice. This thesis is the writer's opinion. The opinion is supported by arguments in paragraphs 2, 3, 4, and 5. A recommendation has been proposed in these paragraphs and strengthened in paragraph 5. The communicative purpose of the writer to persuade and convince the readers to make the English teaching interesting may be achieved since the stages of the argumentative discourse have been fulfilled: Thesis Statement ^ Argument ^ Recommendation. Thus, text 3 has generic and situational coherence. It means that student 6 has textual competence at the macro level.

Analysis of Text 4:

The discourse topic is 'teacher's attempts to succeed in English teaching'. The student formulated the topic into the title 'The Attempts as a Teacher to Succeed in the English Teaching in Indonesia'. She also presented the discourse topic in the thesis statement in the first paragraph 'The learner's lack of motivation becomes one of the primary problems of English language learning.' The controlling idea of the thesis statement is 'the learner's lack of motivation'. Then, the student presented solutions to the controlling idea 'the learner's lack of motivation in the following paragraphs: prompting the students, being close with the students, being excellent listeners, giving feedback. The teacher plays a role as a teacher sharing with her colleagues in a semi-formal situation.

Scanning the text, the readers will easily recognize the discourse topic and sub-topics as have been presented above. And it is also not difficult for the readers to identify the schematic structure of the text Thesis Statement ^ Argument ^ Recommendation. The thesis is the writer's concern about the problems of English language learning. The concern is followed by arguments and recommendations in the following paragraphs. Thus, the text has a clear context of situation, the field is teacher's attempts to succeed in English teaching, the tenor is a teacher to a colleague having similar power, and the mode is informal. The text also has generic coherence since it is an example of a genre. Thus, student 11 has textual competence at the macro level.

4.2.4 Thematic development analysis to develop students' textual competence at the micro-level

As explained in the previous section that in analyzing the thematic development of a text, firstly the students analyzed the first paragraph to identify the thesis and its controlling ideas. Then, they analyzed the thematic development of the second and the other paragraphs to find out further development of the controlling ideas of the thesis and to find out whether each paragraph is fully or partly developed.

Different from topical analysis, in thematic progression analysis the students looked for the actual words in the beginnings and endings of sentences that function as theme and rheme. The writer will put the shared information at the beginning of a clause, called Theme. A clause also includes information considered as new, called Rheme. The choice of a theme in a clause is not random and without structural connection to the text, thus; the choice of a theme is patterned. What is more, the theme of a clause may repeat a meaning from the preceding theme or rheme. According to Paltridge, there are three kinds of thematic development patterns (Paltridge & Burton, 2000) i.e. theme reiteration pattern, zigzag linear theme pattern, multiple theme/split rheme patterns.

After identifying the theme and rheme of the clauses in a paragraph, they drew the progression patterns, how a controlling idea is developed. Then, they practiced evaluating the development level, whether a controlling idea is fully developed, partly developed, or undeveloped.

The research results revealed that the students of the experimental group were able to develop their paragraphs more completely than the control group did; it is indicated by their average scores, i.e. 51.4: 46.6. This means that their learning experience in doing thematic progression analysis impacts on their

competence to develop and organize ideas at the paragraph level. In other words, thematic progression analysis develops the students' textual competence at the micro-level. In this research, the scoring percentage of ideas/thematic organization at the paragraph level is 70%, bigger than the scoring percentage of ideas organization at the text level because the scoring covers the flow of ideas of all of the paragraphs in the text.

To give an objective score, the raters firstly did a topical analysis of each paragraph because the flow of ideas of each paragraph is recognized by the topical analysis. The raters gave a number to each sentence to facilitate the analysis. Then, they identified the topic sentence, the major supporting sentences, the minor supporting sentences, and the concluding sentence. Afterward, the idea/ topic of each sentence was identified to judge the fluency of ideas organization and development of the paragraph. Reid explains that a paragraph is fluently organized and completely developed when it has the major supporting sentences it needs to fully explain the topic sentence and all the minor supporting sentences it needs to explain each major supporting sentence (Reid, 2001). Here is one fully-developed paragraph written by student 14, presented unedited.

Text 5 - Sample of A fully-developed paragraph

(1)In reality, the class size is usually big and the meeting frequency is very low. (2) In Indonesia, the class size of English lesson is big: up to 40 students. (3) This causes difficulties for the teacher to manage the class. (4) And so each student only gets a little attention. (5) The meeting frequency is low, only once a week. (6) This is not enough because the students do not have much time to practice. (7) The frequency should be twice a week. (8) So, English as a foreign language must be taught intensively in small classes with high frequency of meetings.

Analysis:

The structure of the above paragraph is very clear. The student thoroughly developed the ideas with clear organization. Sentence 1 is a topic sentence with two controlling ideas: 'the class size is usually big and the meeting frequency is very low.' Sentence 2 is the major supporting sentence referring to the first controlling idea, telling about the problem in

Indonesia concerning the class size. Sentences 3 and 4 are minor supporting sentences further clarifying sentence 2. Sentence 3 talks about the consequence of the big class size for teachers to manage the class. Sentence 4 talks about the consequence for the students in terms of attention. Sentence 5 is the major supporting sentence referring to the second controlling idea. This major supporting sentence is further

clarified in minor supporting sentences 6 and 7. Sentence 6 presents the consequence of the problem 'less time to practice'. Sentence 7 offers a solution to the problem: to increase the time allotment. Then, sentence 8 is a conclusion.

The analysis above indicates that student 14 is competent in developing and organizing the ideas of the paragraph. Her experience in analyzing the thematic development of paragraphs contributes to developing her competence. The analysis activities make them aware of how information and ideas should flow to be easily understood. It is vital in academic expectations since the students' sophisticated understanding of their discipline will be less meaningful unless they can present the ideas conforming to academic expectations (Liardét, 2015). Then, this awareness makes them apply this knowledge to improve their writing. This strengthens Lixia Wang's findings that by analyzing thematic development, the students can perform the same analysis in their writings, and thus can improve textual cohesion in their work (Wang, 2007). It is useful to emphasize the writing technique employing thematic development (Hendrawan, 2021).

5. Conclusion

Doing concept map and thematic development analyses is effective to develop the EFL students' textual competence in writing argumentative texts because these analysis activities develop the student's critical thinking skills. Doing concept map analysis enables the students to identify the hierarchical topics of a text. The activities of drawing a map activate the learners in the learning process. Furthermore, this makes them aware that a text has a skeleton. And this impacts on the students' awareness to write an outline before the writing process, and in turn, this develops their competence at organizing ideas at the discourse level. The activities of doing thematic development analysis make the students aware of how information and ideas should flow in a text to be easily understood. Then, this awareness makes them apply this knowledge to

improve their writing. Based on this conclusion, the researchers recommend that English teachers consider doing thematic development and concept map analyses as an alternative strategy to enrich the teaching-learning process.

6. References

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