The Impact of Joint Construction of a Process Genre Approach on EFL Tertiary Level Students' Argumentative Writing Development

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A R T I C L E I N F O	A B S T R A C T

Many studies revealed the effect of integrating process approach with genre approach, mostly implemented through a Teaching-Learning Cycle (TLC) which includes modelling, joint construction, and independent construction in developing ESL and EFL students' writing skills, however, few empirical studies have been done to reveal the effect of individual stages of the integration. This study investigated the impact of the joint construction stage of a process genre writing teaching approach in improving students' argumentative essay writing skills and language complexity in one Chinese private university. This study adopted a quasi-experimental design. The participants were from two intact classes totaling 62 students. The control group was taught under a process genre approach without joint construction stage, whereas the experimental group was taught under a process genre approach with joint construction. Classroom intervention lasted for three weeks, and each week consisted of four sessions, 45 minutes per session. Pre-posttests were used to collect the data. The results reveal that the process genre approach with the joint construction stage is more effective than the process genre approach without joint construction in improving students' writing skills and syntactic complexity. However, both the PGA approaches have no effect on developing students' lexical complexity.

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1 Introduction

English writing teaching has been considered challenging by many language teachers. In the EFL context, English writing teaching generally has two purposes, one is for language development or write-to-learn and the other for writing itself or learn-to-write (Yu, 2012). Write-to-learn approach highlights the importance of language forms and grammar rules; whereas the learn-to-write approach focuses on writing skills itself, namely the importance of self-expression and meaning-making. In China, most teachers adopt the traditional product approach. Under this approach, teachers mainly teach writing skills before two washback examinations namely College English Test-Band 4 (CET-4) and College English Test-Band 6 (CET-6), two national-wide standardized tests organized by the Ministry of Education (MOE) (You, 2004). They would expose students to well-scored sample texts, require them to memorize the text structure and vocabulary of the sample texts, and expect them to imitate the text structure and vocabulary. Teachers' evaluation is mainly based on the correctness of students' texts. However, this teaching approach could not cultivate students' ability as a writer, hence process approach was proposed by many scholars and language teachers. Process approach views writing as a complex, recursive, creative, and problem-solving process that includes pre-writing, drafting, revising, and editing. Under this approach, teachers would deliberately teach students recursive writing strategies and little attention is paid to linguistic input which is necessary for EFL writers who are struggling with their choice of words and language patterns in their writing process.

Given the two drawbacks of the product and process approach, the genre-based approach brings context and communicative purpose to English writing teaching. It highlights the social function of writing activity and relates writing to social context and communicative purposes. Australian scholar Macken-Horarik (2002) summarized eight elementary genres in terms of the social purpose of writing, social location, as well as prototypical schematic structure of these genres. To explicitly teach students genre knowledge, Australian genre scholars developed a genre pedagogical model named Teaching-Learning Cycle (TLC) (Martin & Rose, 2008) and applied it to real classroom instruction. TLC consists of three stages, namely modelling, joint construction, and independent construction. Many studies have proved the effect of TLC in increasing students' genre awareness (Cheng, 2006; Nagao, 2020; Wang, 2013; Yasuda, 2011, 2015) and language skills (Caplan, 2017; Caplan & Farling, 2017; Mauludin, 2020; Wang, 2013). However, researchers point out that the genre approach overemphasizes language form and neglects the writing process involved in the composing process, besides, there is a risk that this approach is too prescriptive and hinders students' creative writing skills (Badger & White, 2000). They claim that the process approach and genre approach are not conflicting concepts and they should be integrated to maximize the merits of both approaches (Saidi et al., 2022).

While many scholars have agreed on the advantages of integrating the process with the genre approach (PGA) in developing students writing skills (Gao, 2007; Kim & Kim, 2005), there are few empirical studies on how exactly to integrate the two approaches in real ESL and EFL context (Racelis & Matsuda, 2013). In mainland China, Huang and Jun Zhang (2020) developed a PGA teaching framework by integrating the process approach to the genre TLC model and applied this teaching approach to a group of Chinese EFL learners' argumentative essay writing. However, their study did not assess the effect of individual stages of the PGA model. This study intends to address the gap by integrating studying the specific roles that joint construction played in the PGA model in developing students' argumentative essay writing skills.

2   Literature Review

2.1 Concept of Genre

Genre is a traditional literary construct that has been widely studied by scholars from different fields of study. There are many definitions of genre in history; Hyland (2007) referred to genre as "abstract, socially recognized ways of using language". Hyon (1996) compared varied studies on genre and claimed that there are mainly three schools of genre studies: Systematic Functional Linguistic Genre Theory (SFL Genre), English for Specific Purpose Genre Theory (ESP Genre), and New Rhetoric Genre theory (NR Genre). Among the two approaches, the SFL genre and ESP genre are considered linguistic approaches to genre study (Fakhruddin & Hassan, 2015).

ESP genre theory defines genre as "a class of communicative events, the members of which share some set of communicative purposes that are easily recognized by the expert member of discourse communities" (Swales, 1990). To make successful interaction with others in academic, workplace, and community settings, learners should understand the language conventions shared by particular discourse communities (Bhatia Vijay, 2004; Swales, 1990). Swales (1990) conceptualized discourse community as a group where particular communicative tasks are central to the functioning of this group. After reviewing the concept of genre studies in disciplines including folktales, rhetoric, and literature, he redefined genre from a social-cognitive approach as "communicative events" that are characterized both by their "communicative purposes" and by various patterns of "structure, style, content and intended audience". Hence, the genre has specific discoursal patterns and lexico-grammatical features that are conventionalized by the discourse communities that use them. In other words, genre is shaped by formal properties including structure, content, style, and communicative purpose within a social context.

SFL genre theory lays its theoretical foundation on Systemic Functional Linguistics. Martin and Rose (2008) defined genre as "staged, goal-oriented social processes through which social subjects in a given culture live their lives" (176). In other words, genre is "a recurrent configuration of language to make meaning and to achieve a specific social and cultural purpose. They hold that language is a social semiotic system (Halliday, 1994) and that two contexts namely context of culture and context of situation influence the meaning of the text and shape the overall organization of text form. Context of the situation which is embedded in the context of culture shape the overall linguistic feature of texts. Genre lies in the context of culture. SFL specialists hold that linguistics/grammatical resources adopted by particular texts are defined in a functional way (Halliday & Hasan, 1989). Ideational function defines the content or subject matter of the texts; it mainly demonstrates content like who does what in which circumstances, hence linguistic clauses such as participant expressed in nouns and nominal groups, process expressed in verbs and verb groups, and circumstances expressed in prepositional and adverbial phrases; interpersonal function defines the interaction and negotiation of relationship between writers and readers, it is about how the meaning is transmitted to readers, and to be specific, it is about the writers' position of the meaning.

Since genre is embedded in the context of culture which is defined by register, SFL genre study incorporates register study. SFL genre analysts advocate that "one cannot study genre without discussing grammatical features and language resources available to

fulfill social functions". Hence, SFL genre studies focus on a close look at linguistic resources chosen by writers to fulfill the particular register which is realized through above mentioned three functions of language in a set social and cultural context.

2.2 *Joint construction Stage of TLC*

Joint construction is one of the stages of TLC, a teaching model created by genre scholars to teach students genre writing skills (Feez & Joyce, 1998). This instructional model is inspired by Vygotsky's (1978) ZDP and Scaffolding. Figure 1 displays the stages of the model, namely modelling, joint construction, and independent construction. In the beginning, students are not able to perform the genre writing tasks by themselves. They need teachers' scaffolding to move to the next level of potential development; when they progress within the zone of the potential level of development, teachers have to reduce or remove the scaffolding, and eventually, students can perform the tasks independently. Joint construction is featured by collaborative writing among teachers and students. At this stage of TLC, teacher act as a text scriber, and genre knowledge provider to further scaffold students' writing and students have the chance to practice knowledge learned at the modelling stage (Fathi & Kassem, 2021).
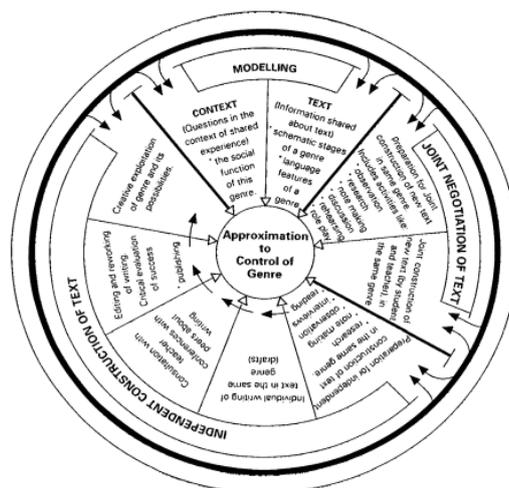

Figure 1. *Teaching-Learning Cycle (Feez & Joyce, 1998)*

In practice, the joint construction stage can be carried out by whole-class collaborative writing activities, such as students working together in groups to write the same essay or students working with teachers to compose the same text (Mauludin, 2020). This stage can also be carried out differently: teachers assign the writing task to the whole class by proving a prompt, and help students to reflect on their existing knowledge on the specific writing topic; then students are divided into several groups, and each group is asked to write an essay collaboratively and finally present the texts to the whole class waiting for feedback.

Researchers hold varied attitudes toward the joint construction stage of TLC. Some scholars uphold that joint construction is the most important stage and teachers' scaffolding provide enough support to facilitate students' writing (Caplan, 2017).

However, some empirical evidence reveals the non-effectiveness of this stage in developing students' writing (Hermansson et al., 2019; Mauludin, 2020). Given the controversial attitude toward the function of joint construction stage, it is vital for researchers to further explore the value of joint construction stage in varied contexts.

2.3 Process Genre Approach in Writing

Process genre approach is a writing teaching approach integrated with process writing approach ad genre approach. It changed scholars' prior experience of viewing writing as purely a process or a genre. It is claimed as inheriting both the merit of the process approach and genre approach. This approach was firstly initiated by Badger and White (2000). In response to the varied attitude toward writing and writing teaching, some researchers and writing teachers claimed that process and genre are not mutually exclusive but different aspects of writing (Racelis & Matsuda, 2013). Under this approach, students are exposed to the language features, communicative purposes, and read-writer relationship, and in the meantime go through the recursive cognitive writing process including pre-writing, drafting, revising, and editing.
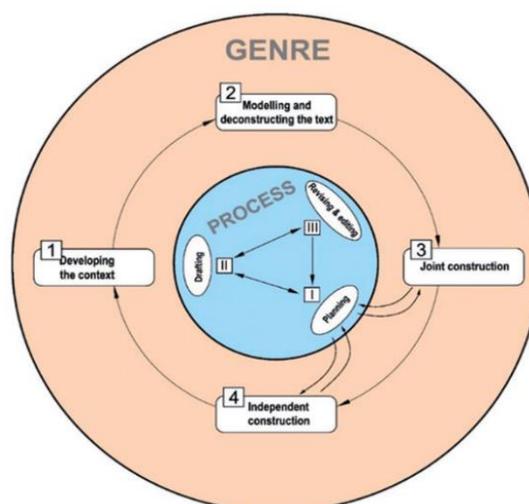

Figure 2. *PGA model proposed by Huang and Zhang (2019)*

PGA has been claimed as an effective way to improve both language ability and writing skills theoretically, however, there are little research on how to integrate the two approaches in real classrooms. Some scholars integrate process approach with teaching-learning cycle (TLC), a model invented by genre scholars when implementing genre writing approach (Huang & Jun Zhang, 2020). In their PGA model (Figure 2), process writing is integrated with complete TLC which consists of three stages namely modelling, joint construction, and independent construction. However, their study did not explore the value of each teaching stage. Given the unresolved issue of the role of joint construction stage in the TLC model, this study addressed the gap by investigate the effectiveness of joint construction stage of PGA in developing students' argumentative writing skills and language ability.

2.4 Language complexity in writing

Researchers have been working on tracking students' English language development since early 1970s (Larsen-Freeman, 2009). Among them, second language complexity is one of the most commonly used approaches to detect students' language development (Ellis, 2015).

Language complexity includes lexical complexity and grammatical complexity. Lexical complexity is defined as "a wide variety of basic and sophisticated words are available". It includes three concepts namely lexical density, lexical variation, and lexical sophistication. Lexical density refers to the ratio of the number of lexical words to the total number of words in a text". Lexical variation reflects the range of students' productive vocabulary. Grammatical complexity is about variation and sophistication of grammatical features. Foster and Skehan (1996) define development of grammatical complexity as "progressively more elaborate language and a great variety of syntactic patterning". In other words, students with wide grammatical complexity reveal in their productive language their ability in employing various syntactic structures.

Studies revealed that students can develop their lexical complexity under appropriate instructions. Yasuda (2011) integrated genre teaching approach with task-based teaching approach and applied it to Japanese students' e-mail writing classes. He found out that students' lexical diversity did not change significantly while language sophistication as measured by the frequency count of formulaic expression specific to email genre change significantly. Wang (2013) applied genre teaching approach to study students' lexical ability development. Through 14 weeks of intervention, she found out that students' lexical diversity improved significantly while lexical sophistication measured by the proportion of less frequent or advanced words revealed no significant change.

Studies also uncovered that students can develop their syntactic complexity under appropriate teaching and peer feedback. Fazilatfar et al. (2014) studied the effect of teachers' feedback on two groups of university-level students' lexical and syntactic complexity and revealed that students who received teachers' feedback outperformed students who did not receive any feedback. Han (2009) studied the effect of peer feedback in improving the third-year English major students' writing complexity in a Chinese university and uncovered that peer feedback can improve their language complexity as measured by T-unit length.

Peer collaboration can also be one strategy to improve students' language complexity. Shehadeh (2011) studied the effect of collaborative writing in improving students' language complexity within one academic year and unveiled that students' lexical complexity improved significantly whereas syntactic complexity remained the same.

In response to the calling for a more detailed empirical study to examine the hybrid process and genre writing teaching approach as well as joint construction of TLC specifically, this study intends to design an intervention study and the following research questions were initiated.

Question 1: Does joint construction stage of the PGA take effect on EFL students' writing performance?
Question 2: Does joint construction stage of the PGA take effect on EFL students' language complexity development?

3   Research Methods

A quasi-experimental study was adopted in the current study. The data were collected through pre-test and post-test of an argumentative essay in response to writing prompt. Pre-test was used to measure students' writing scores which function as baseline; post-test was used to detect students' change in writing scores and language complexity.

3.1 Participants

This study was conducted at a private university in mainland China. The subjects of the study were from two parallel classes (N=31 in each class) majoring in Chinese Language, and all of them were in first semester of the first academic year. They were randomly assigned to two classes before entering college, hence it was assumed that they were of similar demographic backgrounds and previous English learning experiences. Their average age was 20 and had learned English for nearly 10 years.

3.2 Treatment

The classroom intervention last for three weeks. Students from the experimental group (EG) were taught under PGA approach incorporating joint construction stage, while students from the control group (CG) were taught under a PGA approach without a joint construction step. To be specific, as for EG, the classroom instruction went through three stages: modelling, joint construction, and independent construction; for CG, the joint construction stage is replaced by modelling, which means they went through two stages including modelling and independent construction.

In the modelling stage, the teacher provides students with some mentor exemplars to sensitize them to social context, purpose, and reader-writer relationship of the argumentative genre. Students are guided to understand the genre features of the reading materials provided. They are also asked to analyze the structure and language features of the target genre.

In the joint construction stage, students work together to write an argumentative essay and the teacher researcher will be a transcriber and participant for this writing activity. The teacher-researcher guide students and work together with them to practice process writing activities namely pre-writing, drafting, feedback and revision process writing skills. In the pre-writing stage, they are suggested to refer to the genre features learned in the previous modelling stage. After finishing the first draft, students are asked to provide feedback on the draft. After providing feedback, students work as a group to revise the first draft.

In the independent writing stage, students are assigned an individual task to write an argumentative text. They are asked to brainstorm on the topic, organization, and language feature through various pre-writing activities including listing, mapping and then they start to write the first draft. After submitting the first draft, they work in group to provide feedback to each other using the same feedback checklist to assist the feedback activities. After that, they revise the first draft accordingly and submit the second draft.

A similar activity was carried out in the control group. The only difference was that the joint construction stage was intentionally not implemented. Table 1 displays the classroom procedure for the current experiment.

Table 1

Implementation of Classroom Procedures for EG and CG

Week	Teaching Objectives	PGA with joint construction stage	PGA without joint construction stage
Week 1:	Pre-test	Argumentative essay writing	Argumentative essay writing
	Argumentation:	Modelling	Modelling
Week 2:	Theme on	Joint Process Construction	Modelling
	Internet	Independent Process Construction	Independent Process Construction
	Argumentation:	Modelling	Modelling
Week 3	Theme on	Joint Process Construction	Modelling
	Gender	Independent Process Construction	Independent Process Construction
	Argumentation:	Modelling	Modelling
Week 4	Theme on	Joint Process Construction	Modelling
	Campus Love	Independent Process Construction	Independent Process Construction
Week 5	Post-test	Argumentative essay writing	Argumentative essay writing

3.3 Data Collection

To track students' writing development, two writing tasks were assigned to both groups. Before the classroom instructional intervention, the two groups of students were asked to write one argumentative essay in response to the assigned prompts. All of them were given enough time to write and they were not allowed to use any devices to assist their writing process. The argumentative genre was selected since it is the genre type included in the university curriculum and students' overall writing skills in argumentative essay writing are poor. After the intervention, in week five, each group was asked to write the same argumentative essays as in the previous tests.

3.4 Data Analysis Techniques

Phrase One: Writing Scores

Students' writing for pre-test and post-test was assessed using a widely used writing rubric which was firstly developed by Jacobs (1981) and later adapted by Shehadeh (2011) to rate students' writing scores. This scale consists of five components on a 0–100-point scale, including content, organization, grammar, vocabulary, and mechanics of writing. Two raters who have writing teaching and rating experience and work in the same university as the researcher was invited to participate in the rating process. Both of them received training of the aforementioned rubric so they were fully aware of the rating criteria. The two raters did the work independently. To avoid rater bias, the researcher removed all of the private information which is irrelevant to the written texts. Interrater reliability value as measured by Cronbach's alpha reached .8, which means there was a good agreement between the two raters. After rating, all of the quantitative data were subjected to SPSS analysis. Shapiro-Wilk Normality test revealed that the data were not normally distributed, hence, a non-parametric Mann-Whitney test was used to measure the differences between the two groups in terms of pre-posttests. Besides, Wilcoxon Signed Ranks Test was used to measure the differences within each group in terms of pre-posttest.

Phrase Two: Language Complexity Measurement

The researcher chose five indices to measure language complexity. Two indices namely Lexical Variety (LV) and Lexical Density (LD) were used to reflect lexical complexity; three

indices namely Mean Length of T-Unit (MLT), Clause per T-unit (CT), and Dependent Clause per Clause (DC/C) were used to reflect syntactic complexity. The researcher typed students' texts into the computer and uploaded filed to an online language complexity analyzer developed by Lu (2010), and obtained the required language complexity data. The researcher saved the figures of each group in Excel format for later quantitative data analysis.

Again, the data were subjected to SPSS analysis. Shapiro-Wilk Normality test revealed that the data were normally distributed, hence, independent Sample T-tests were used to compare students' change of language complexity; paired-sample T-test were used to track students within group development after the classroom intervention.

4 Results

4.1 Writing Scores

The first research question intends to find the effects of joint construction stage of the PGA on EFL students' writing performance. Table 2 displays the Z score and P-value (two-tailed) of students' overall writing scores and sub-skill writing scores in pre-test comparing the two groups. In this table, the P-Value for content, organization, grammar, vocabulary, mechanics, and total scores were above .05, indicating that there are no significant differences between the two groups regarding overall writing scores and sub-skills scores. These results could be attributed to the fact that students from both groups were from two intact classes majoring in Chinese Studies in their first academic years. Their English learning experience was similar. They had never experienced PGA approaches, and their total writing scores and five other sub-skills scores were low.

Table 2

Mann-Whitney Results of Pre-test Argumentative Essay Scores

Dimensions	group	N	Median	U- Value	Z-Value	P-Value
content	Experimental	31	18			
	Control	31	18			
	Total	62				
				464.000	-2.33	0.816
organization	Experimental	31	11.5			
	Control	31	11			
	Total	62				
				381.500	-1.401	0.161
grammar	Experimental	31	16			
	Control	31	17			
	Total	62				
				354.000	-1.891	0.069
vocabulary	Experimental	31	12.5			
	Control	31	12.5			
	Total	62				
				435.000	-0.647	0.581
mechanics	Experimental	31	3			
	Control	31	3			
	Total	62				
				477.000	-0.051	0.959
total	Experimental	31	62			
	Control	31	61.5			
	Total	62				
				476.500	-0.056	0.955

Table 3 shows the results of post-test scores of both groups. As can be seen, the P values (two-tailed) of all five sub-skill scores and total scores are smaller than .05, which means that there are significant differences in overall writing scores and five sub-skills scores between the control group and experimental group, and through comparison of means, it can be concluded that students from the experimental outperformed control group regarding content, organization, grammar, vocabulary, mechanics and total scores after 3 weeks' writing instruction. These results confirmed the effectiveness of the joint construction stage of PGA approach in improving students' writing scores.

Table 3

Mann-Whitney Results of Post-test Argumentative Essay Scores

Dimensions	Group	N	Median	U- Value	Z-Value	P-Value
content	Experimental	31	23.5			
	Control	31	22.5			
	Total	62		316	-2.328	0.02
organization	Experimental	31	16			
	Control	31	14.5			
	Total	62		161.5	-4.533	.000
grammar	Experimental	31	20.5			
	Control	31	19			
	Total	62		294	-2.661	0.008
vocabulary	Experimental	31	15.5			
	Control	31	14.5			
	Total	62		302.5	-2.537	0.011
mechanics	Experimental	31	4			
	Control	31	4			
	Total	62		338	-2.256	0.024
total	Experimental	31	80			
	Control	31	75			
	Total	62		228.5	-3.551	.000

The researcher compared the intragroup performance in pre-test and post-test to explore the effectiveness of PGA approaches in general. Wilcoxon signed-rank test was adopted to explore students' change in overall writing scores and five sub-skills scores, and Table 4 and Table 5 show the results.

Table 4

Wilcoxon Signed-Rank Test Results of EG Comparing Pre-test and Post-test

	Dimensions	N	Median	Z-value	P-Value
content	pre-content	31	18,000	-4.764	0.00
	post-content	31	23.500		
organization	pre-organization	31	11.500	-4.865	0.00
	post-organization	31	16.000		
grammar	pre-grammar	31	16,000	-4.778	0.00
	post-grammar	31	20.500		
vocabulary	pre-vocabulary	31	12.500	-4.771	0.00
	Post-vocabulary	31	15.500		
mechanics	pre-mechanics	31	3.000	-3.777	0.00
	post-mechanics	31	4.000		
total	Pre-total	31	62.000	-4.861	0.00
	post-total	31	80.000		

Table 5

Wilcoxon Signed-Rank Test Results of CG Comparing Pre-test and Post-test

	Dimensions	**N**	**Median**	**Z-value**	**P-Value**
content	pre-content	31	18,000	-4.725	0.00
	post-content	31	20.500		
organization	pre-organization	31	11.000	-4.868	0.00
	post-organization	31	14.000		
grammar	pre-grammar	31	17.000	-3.551	0.00
	post-grammar	31	18.000		
vocabulary	pre-vocabulary	31	12.500	-4.359	0.00
	post-vocabulary	31	13.500		
mechanics	pre-mechanics	31	3.000	-3.586	0.00
	post-mechanics	31	4.000		
total	Pre-total	31	61.500	-4.841	0.00
	post-total	31	70.500		

In Table 4, as for EG, it can be noticed that the P-values (two-tailed) for five-skills dimensions and total scores are lower than .05, indicating the significant differences in regards to pre-test and post-test performance of the EG group. A comparison of means between the two tests reveals that post-test scores are significantly higher than pre-test scores in all of the five dimensions and total scores.

In Table 5, as for EG, it can be noticed that the P-values for five-skills dimensions and total scores are lower than .05, indicating the significant differences in regarding pre-test and post-test performance of the EG group. A comparison of means between the two tests reveals that post-test scores are significantly higher than pre-test scores in all of the five dimensions and total scores.

Table 6

T-test Results of Pre-test Argumentative Genre Language Complexity Comparing EG and CG

	Groups	**N**	**Mean**	**Std. Deviation**	**Std. Error Mean**	**T-Value**	**P-Value**
prearg LD	EG	31	.5423	.04145	.00744	.196	.845
	CG	31	.5403	.03592	.00645		
prearg LV	EG	31	.7187	.11775	.02115	1.340	.185
	CG	31	.6748	.13923	.02501		
prearg MLT	EG	31	13.838197	3.3595098	.6033858	1.078	.286
	CG	31	12.975229	2.9319488	.5265936		
prearg C/T	EG	31	1.578668	.3292529	.0591356	-.609	.545
	CG	31	1.626732	.2913382	.0523259		
prearg DC/C	EG	31	.340326	.1044573	.0187611	-.009	.993
	CG	31	.340548	.0951004	.0170805		

Note 1: lexical density, LV: lexical variety, MLT: mean length per T-unit, C/T: clause per T-unit, DC/C: dependent clause per clause

Note 2: prearg: pre-test argumentative genre, postarg: post-test argumentative genre

To sum up, the results illustrated above showed that after 15 weeks of classroom intervention, the experimental group taught under PGA with the joint construction stage progressed remarkably in overall scores and five sub-skill scores namely content, organization, grammar, language, and mechanics in post-test. Besides, it is interesting to find that the control group taught under PGA without the joint construction stage also improved in all total scores and five sub-skills, whereas compared with the progress made by the experimental group, their total scores and five sub-scores are significantly lower. These findings proved that PGA with joint construction is more an effective way to improve students writing performance.

4.2 Language Complexity

The second research question intends to find the effects of joint construction stage in developing students' language complexity. Since the data were normally distributed, the researcher used an independent sample T-test to compare the mean differences between the two groups in pre-test and post-test argumentative genre writing. Table 6 revealed the initial level of students' language complexity in argumentative genre written by the two groups.

As displayed in Table 6, the P-value (two-tailed) of all of the five indices of language complexity of the two groups are larger than .05 (.845, .184, .286, .545, .993 respectively). This means that there were no meaningful differences between the two groups in terms of pre-test argumentative genre writing's language complexity.

Table 7

T-test Results of Post-test Argumentative Genre Language Complexity Comparing the EG and CG

	Groups	N	Mean	Std. Deviation	Std. Error Mean	T-Value	P-Value
postarg LD	EG	31	0.5355	0.02919	0.00524	-1.275	0.207
	CG	31	0.5458	0.03433	0.00617		
postarg LV	EG	31	0.5816	0.11411	0.02049	0.463	0.645
	CG	31	0.569	0.09938	0.01785		
postarg MLT	EG	31	16.399645	3.7696787	0.6770543	1.987	0.052
	CG	31	14.620494	3.262653	0.5859898		
postarg C/T	EG	31	1.8037	0.4927964	0.0885088	1.88	0.065
	CG	31	1.616087	0.2563896	0.0460489		
postarg DC/C	EG	31	0.411552	0.1092765	0.0196266	2.19	0.032
	CG	31	0.354874	0.0939412	0.0168723		

Note 1 : LD: lexical density, LV : lexical variety, MLT: mean length per T-unit, CIT: clause per T-unit, DC/C: dependent clause per clause
Note 2: prearg: pre-test argumentative genre, postarg: post-test argumentative genre

The same independent sample T-test was used to explore the mean differences of language complexity indices of the two groups in post-test argumentative genre writing, and Table 7 shows the results.

In Table 7, the P-value (two-tailed) of lexical complexity indices including LD (lexical density) and LV (lexical variety) are larger than .05 (.207 and .645 respectively), and it means that there was no meaningful difference between the two groups of students' lexical complexity in their post-test argumentative genre writing.

However, among the three syntactic complexity indices, the P-values of two indices are below or equal to .05, including MLT (Mean length per T-unit) with a P-value of .05 and DC/C (dependent clause per clause) with a P-value of .032. It means that the mean differences between the two groups of students' argumentative genre writing syntactic complexity are significant. In other words, experimental groups outperformed the control group in terms of post-test argumentative genre writing's syntactic complexity.

To explore students' change of language complexity performance within each group, the researcher adopted paired sample t-test to compare the mean differences of both lexical and syntactic complexity of argumentative genre written in pre-test and post-test. Table 8 revealed the mean differences within the experimental group in all of the five indices written in the two tests.

Table 8

T-test Results of EG Comparing Argumentative Genre Language Complexity on Pre-test and Post-test

		Mean	N	Std. Deviation	Std. Error Mean	T-Value	P-Value
Pair 1	prearg LD	.5423	31	.04145	.00744	.698	.490
	postarg LD	.5355	31	.02919	.00524		
Pair 2	prearg LV	.7187	31	.11775	.02115	5.389	.000
	postarg LV	.5816	31	.11411	.02049		
Pair 3	prearg MLT	13.838197	31	3.3595098	.6033858	-3.956	.000
	postarg MLT	16.399645	31	3.7696787	.6770543		
Pair 4	prearg C/T	1.578668	31	.3292529	.0591356	-2.498	.018
	postarg C/T	1.803700	31	.4927964	.0885088		
Pair 5	prearg DC/C	.340326	31	.1044573	.0187611	-3.200	.003
	postarg DC/C	.411552	31	.1092765	.0196266		

Note 1: LD: lexical density, LV: lexical variety, MLT: mean length per T-unit, C/T: clause per T-unit, DC/C: dependent clause per clause
Note 2: prearg: pre-test argumentative genre, postarg: post-test argumentative genre

Table 8 reveals that except for LD (lexical density) with a P-value of .490, the P-value (two-tailed) of other four indices were all below .05 (.000 for LV, .000 for MLT, .018 for C/T and .003 for DC/C). These figures indicated that the mean differences within the experimental group in pre-test and post-test argumentative genre writing's lexical complexity and syntactic complexity are significantly different. Through comparison of means, we can easily notice that the lexical variety of the pre-test argumentative genre (with a mean of .7187) is higher than that of the post-test (with a mean of .5816), whereas the means of all the indices of lexical complexity of pre-test argumentative genre are lower than those of post-test. These figures suggested that as for the experimental group, students' LV of the argumentative genre written in pre-test are higher than those written in post-test whereas syntactic complexity of argumentative genre written in pre-test is lower than those written in post-test.

To trace students' language complexity development within the control group, the same paired sample T-test was performed and the results were concluded in Table 9.

Table 9

T-test Results of CG Comparing Argumentative Genre Language Complexity on Pre-test and Post-test

		Mean	**N**	**Std. Deviation**	**Std. Error Mean**	**T-Value**	**P-Value**
Pair 1	prearg LD	.5403	31	.03592	.00645	-.691	.495
	postarg LD	.5458	31	.03433	.00617		
Pair 2	prearg LV	.6748	31	.13923	.02501	3.841	.001
	postarg LV	.5690	31	.09938	.01785		
Pair 3	prearg MLT	12.975229	31	2.9319488	.5265936	-2.140	.041
	postarg MLT	14.620494	31	3.2626530	.5859898		
Pair 4	prearg C/T	1.626732	31	.2913382	.0523259	.144	.887
	postarg C/T	1.616087	31	.2563896	.0460489		
Pair 5	prearg DC/C	.340548	31	.0951004	.0170805	-.622	.539
	postarg DC/C	.354874	31	.0939412	.0168723		

Note 1: LD: lexical density, LV: lexical variety, MLT: mean length per T-unit, C/T: clause per T-unit, DC/C: dependent clause per clause

Note 2: prearg: pre-test argumentative genre, postarg: post-test argumentative genre

In Table 9, the P-value (two-tailed) of two indices including LV and MLT is below .05 (.001 for LV and .041 for MLT) and the remaining indices are all larger than .05. It means that within the control group, the mean differences of students' LV and MLT are significant between pre-test and post-test argumentative genre writing whereas the mean differences of other four indices are not significant. By comparing the mean of LV and MLT, we can notice that students' LV of pre-test of argumentative genre writing are larger than that of post-test whereas their MLT of pre-test is lower than that of post-test. These findings are similar to what had been observed in the experimental group.

The above results show that the PGA with joint construction stage has no effect on developing students' lexical complexity, and the same is true for PGA without joint construction stage. However, as for syntactic complexity, PGA with joint construction stage proved to be more effective than PGA without joint construction.

The results of the current study suggested that students can improve writing skills in terms of content, organization, grammar, language use, and mechanics under both PGA approaches. Their syntactic complexity also improved dramatically. When comparing the two PGA approaches, it was evident that PGA with joint construction stage is more effective than PGA without joint construction stage in developing students' writing performance.

5 Discussions

In the current study, students' pre-test writing performance revealed limited understanding of argumentative genre. Through analysis of their written texts, the researcher found that most texts did not present clear thesis statement, and few evidences were provided to support claims. After the intervention, both groups selected claims carefully to support their thesis and they provided varied evidence such as facts, and statistics to support their claims. More importantly, experimental group outperformed control group regarding content, organization, grammar, vocabulary, mechanics and syntactic complexity. This finding indicates that joint construction stage of TLC is an effective activity which cannot be skipped in actual classroom instruction when

implementing PGA. This study extends Huang and Jun Zhang (2020) by investigating specific stage of the PGA teaching framework which integrates process writing to genre TLC. The current is also similar to findings found by Caplan (2017), which claimed that joint construction stage is effective in developing students' language skills and genre writing skills. This study is also in line with findings by Yasuda (2015), which states that analysis of mentor exemplars could improve students' genre awareness and knowledge. Through genre analysis of written text, reader-writer relationship, and communicative purpose, students explore "why" and "how" these exemplars were construed specifically. Similarly, Carstens (2011) confirmed that the genre approach provides students with scaffolded teaching and learning experience which assisted them in improving their writing skills. Moreover, students' knowledge of the conventions of a specific genre empowers them with metacognitive awareness to facilitate self-evaluation.

In the joint construction stage, students work together to construct a single text. They were guided through process writing strategies, including pre-writing, drafting, revision, and editing. In the pre-writing phase, they work together to construct the meaning. By doing so, they generate ideas, discuss ideas and plan text together. They reflect on the genre knowledge learned and applied them to their own piece. In the drafting stage, they work together to organize these ideas into text and applied the genre knowledge learned in the modelling stage to their writing. After the first draft, they work together to revise their text. They further check the content, structure, and language appropriate to the argumentative genre, and mechanics and submit the second draft. The teacher presented the second draft to the whole class, and all of the students can provide related feedback on the draft using their genre knowledge learned in the joint construction stage.

One reason that joint construction is more effective in improving students' writing scores may be that students learn from each other through collaborative tasks. Students are different in terms of background experiences, knowledge, and language proficiency. When they write collaboratively, each of them could contribute their strength to the group. Some of them may provide good content, and some others may be better at grammar or organization. Their shared knowledge makes them take full advantage of one's expertise so that they can improve their overall writing skills. This opinion is supported by Shehadeh (2011) who points that collaborative writing enables students to learn from each other. She states that students can share their ideas with partners which can make them generate better ideas than individual work and they can produce better texts with interesting content, appropriate language, and grammar. Students' improvement in syntactic complexity is also attributable to their boosted confidence while participating in collaborative writing.

The findings can also be explained by socio-cultural theory of learning which holds learning as a social activity (Lantolf, 2000). Students develop their cognition and higher-order thinking skills through interactive participation in group discussion, collaborative learning, and tutoring. EFL students generally lack of target language environment so they learn from imitation. Through joint construction activities, students can observe peer students' thinking and they can imitate their thinking strategies and writing style (Lantolf, 2006). Teachers also play an important role in guiding students' writing. They should provide handy support when there is a conflict during the group negotiation, hence this provides another source for students' imitation.

6 Conclusion

The current study integrated a widely used genre teaching model named TLC with process writing to teach Chinese tertiary level students' argumentative essay writing development. It also intended to investigate the values that the joint construction stage brings to the innovative PGA teaching approach. In doing so, the researcher developed two PGA teaching approach: integration of the complete stage of TLC with process writing (PGA with joint construction) and integration of TLC without joint construction stage with process writing (PGA without joint construction). Results show that students instructed under both types of PGA improve significantly in all of the five dimensions of writing skills (content, organization, grammar, language use, and mechanics) and syntactic complexity. Besides, PGA with joint construction stage is more effective than PGA without joint construction in developing students' syntactic complexity and the five dimensions of writing skills.

This study provides insightful pedagogical implications for English writing teachers in EFL contexts. When implementing PGA, teachers should carefully follow the fixed TLC stages to scaffold students' writing knowledge and language skills. They should scaffold students' genre knowledge in the modelling stage through analysis of mentor exemplars and pay special attention to generic features which include structural patterns and language features. Furthermore, they should provide students with the opportunity to work collaboratively on the recursive writing process in the joint construction stage. Most learning happens in this specific stage. Students learn thinking skills, topic-related knowledge, and the English language from their peers. Their confidence in writing increased gradually so that they dare to try new languages which they were not familiar. Teachers' role in this stage is to detect whether students have acquired the genre knowledge learned in the previous stage and provide handy support if they come across any difficulties. Besides, special attention should be paid to If students could not apply the genre knowledge to collaborative writing, teachers need to move back to the modelling stage to further support students' learning of genre.

However, the results of the study should be interpreted with caution. The students in this study were taught argumentative writing only, hence its effectiveness in other type of genres is unknown. Second, due to the complicated teaching and learning process as influenced by many internal and external factors, the replication of the current study is necessary for other contexts. Finally, this study was conducted in a homogenous setting with a well-supported teaching environment. Further study is expected to focus on a more heterogeneous environment.

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