The Effectiveness of Process Writing in Developing Coherence and Cohesion in English for Academic Purposes (EAP) Learners' Texts

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Abstract

This paper explores the effectiveness of the process writing approach in enhancing coherence and cohesion in the writing of English for Academic Purposes (EAP) learners. Employing a quasi-experimental pre-test/post-test design, the study involved 60 intermediate to advanced learners enrolled in an Intensive English Program (IEP). Participants were divided into two groups: an experimental group that received instruction using the process writing approach, and a control group that followed traditional writing instruction methods. The results indicated that the experimental group showed significant improvements in both writer-centered strategies and reader-oriented coherence and cohesion. These improvements are attributed to the recursive nature of the process writing approach, which allowed for multiple opportunities for revision and feedback. In contrast, the control group demonstrated only minimal progress. The findings suggest that the process writing approach is an effective pedagogical strategy for improving academic writing in EAP contexts, particularly in organizing ideas coherently and linking them logically. This study contributes to the existing literature on EAP writing instruction and provides insights into effective teaching practices that support the development of academic writing skills.

Keywords: Process Writing, Coherence, Cohesion, English for Academic Writing (EAP), Academic Writing, Intensive English Program (IEP), Experimental Group, Control Group

Introduction

Composing in the written language especially literary English is an important element necessary for learners in multilingual region. Scholastic proficiency entails the academic skills that students need to write objectively about concepts in a clear logical order and coherent style which is vital in passing academics (Zhang Hyland, 2018). Coherence and cohesion, two interrelated components of writing quality serve as pivotal markers of well-structured academic texts. Coherence can be defined as the connection of the ideas, while cohesion implies the connection of the ideas by means of grammatical and lexical ties (Gutwinski, 2011). However, EAP learners often fail to create texts that contain both coherence and cohesion as they should. These challenges become even more pronounced when learners are operating in a second or foreign language, highlighting the need to identify effective teaching practices to address these gaps.

Challenges in English for Academic Purpose (EAP) Writing

The question of developing coherence is one of the key problems related to EAP learners. The research done by Crossley et al., 2016,2019, and 2023), showed that students consistently lose control of their ideas, and they fail to have a cohesive argument and therefore fail to provide thematic progression in their arguments. This may be attributed

to the limits in language proficiency where there are many words and phrases which a coherent structure writer may not master. Coherence, although connected to cohesion, is again a whole area of challenges. Students misuse cohesive means – conjunctions, referencing and lexical reiterative within the texts, which can cause their writing to become stilted and unnatural or mechanical. This lack of coherence and cohesion generally hampers the academic communicative purpose of their texts and causes confusion to the readers in following a particular line of reasoning (Sekwo, 2019).

With these challenges in mind, many instructional strategies have been made to help the learners increase their writing ability. One method being the process writing model. This kind of writing is cyclic, which recognizes the prewriting, writing, rewriting, and the editing stages of the writing process, and provide several opportunities of focusing on the developing of the texts to the learners (Maolida & Mustika, 2018). The process writing approach has received more support for two reasons due to its effectiveness in handling both coherence and cohesion concerns in student writing according to Lee (2002). Nevertheless, where process writing has been championed to improve general writing, future studies should focus on the coherence and cohesion improvements for EAP writing in particular.

The process writing approach makes learners produce several drafts in their writing and the learners have the opportunity to re-write, facilitating better organization of ideas in their text. It has also become easier to teach the writing skill by dividing the writing process into brainstorming, outlining, composing, revising and editing, where students are able to control the logical structure development step by step (Abas & Abd Aziz, 2018). This consecutive process might be highly effective for EAP learners especially to organize complex academic concepts in a second language. Notably, the process writing model enables the students to get formative feedback during the writing process, which will help them streamline the writing process. The growing and common knowledge feedback allow learners to improve their thought processes and have the chance to check that their arguments are connected logically (Glaser, 1984).

Research on writing has indicated that the process writing approach is beneficial in creating coherence. For instance, Zarei et al. (2017) have investigated the effects of process writing with learners of English for Academic Purposes (EAP) in Iran and identified positive effects on the writing performance of the students; the students' writing (in terms of essay writing for instance) starting to be theoretically well ordered with clear topic sentences and coherent sequence of ideas. Newell et al. (2011) similarly identified that because of the multiple drafting, learners had to think through the development and organisation of their argumentation, and this has led to improved clarity of the texts. Process writing also helps the learners to advance in EAP contexts, which entails deployment of coherence before other details, such as grammar and mechanics.

From the foregoing, it can be inferred that process writing facilitates coherence and cohesion: The learners are required to focus on lexical and grammatical connections between ideas. During the revision stage, learners are forced to ponder over the choice of cohesion strategies and identify areas which need correction to create a better-connected idea (Mensah, 2014). This is especially significant about EAP learners, who can use a very restricted repertoire of cohesive devices (CD) that can be repetitive or inapt at times (North, 2014).

In turn, Lam et al. (2020) revealed that process writing caused an increase in the quantity of cohesive devices used in the essays of EAP learners and more essay-like texts. This is in light of the fact that the multiple cycles of writing and rewriting that enable learners to be more conscious of cohesion and therefore make more appropriate and varied demands on cohesive devices. Further, Hamp-Lyons & Heasley (2006) pointed out that through process writing, learners not only avoid lexical repetition but also integrate new information provided, as a result of fashioning a meaningful and coherent text from start to end. As mentioned above, this aspect of process writing is essential when it comes to the linguistic experience of EAP learners who can easily lose coherence and use specific phrasemes and lexis to the extent of becoming cliched.

However, little research has been done on examining how process writing affects coherence and cohesion in EAP settings. Previous research has mainly focused on general writing quality or more narrowly on grammatical features, while coherence and cohesion have not been investigated as separate variables. Since these aspects are central in academic writing, it is important to find out how process writing can enhance the learning of EAP learners.

The Problem of the Study

As for the students in the sphere of academic writing, the EAP learners do experience significant difficulties to write texts, which are both coherent and cohesive. This article emphasizes on two crucial factors known as coherence- how ideas are connected, and cohesion- how lexical and grammatical connections are used, as the ingredients that make academic writing comprehensible and convincing. Nevertheless, Evans & Morrison (2011) noted that many EAP learners have problems with these aspects, especially when students studied in multilingual environments, and they have not developed appropriate language resources needed to make plans in academic knowledge domain (Jessner et al., 2016). However, after being taught appropriate writing styles, a majority of learners continue to submit papers that are fragmented, with poor-connective discourse and coherence. This generates a gap between the writer and the reader, and that if not bridged will only deter the academic process.

These objections can be said to be addressed by the process writing approach which therefore holds the idea of writing as involving several drafts of the intended piece, followed by revisions and editing. However, even though this approach is known to contribute to more general improvement of the general writing abilities of learners, there is relatively little information relating to the specific effect of the approach on logical and smooth organization of the information within EAP learners' writing process (Yang, 2012). Most of the research investigations propose that increased concern on the issues leads to an emphasis on linguistic accuracy or general writing quality without effectively identifying the impact of the two variables independently. Hence, the problem this study seeks to fill in the existing literature is the lack of a concentrated focus on the effects of process writing on coherence and cohesion in EAP learners' texts. This study aims then to bridge this gap by quantitatively assessing the impact of process writing on the aspects of writing.

Questions of the Study

1. To what extent does the process writing approach improve the coherence of EAP learners' texts?
2. How does the process writing approach affect the cohesion of EAP learners' texts?
3. What is the relationship between learners' engagement in the process writing stages and the development of coherence and cohesion in their texts?

Significance of the Study

The usefulness of this research resides in the understanding of the presented data means for enhancing EAP writing theory and practice. First, by examining only coherence and cohesion, the study fills the gap in the current literature as most of the works fail to assess coherence and cohesion separately from other aspects of writing competence (Siekmann et al., 2022). Such awareness of process writing in relation to the two elements shall offer insights into how academic writing can be more effectively taught to EAP learners.

Concisely, the outcomes of this research will contribute to the development of programs, curricula and teaching approaches of EAP educational contexts. This research may help instructors consider adopting or improving their strategies for teaching writing since this study showed how Process Writing improves coherence and cohesion. Besides, it will offer teachers techniques to make students enhance such performance factors as the coherence and cohesion of the texts, which are critical for generating academic discourse. Therefore, the study seeks to enhance the writing achievements of the EAP learners with enabling their skills for writing in academic arenas that require effective communication.

Terms of the Study

In this study, the process writing approach, one of the most used strategies to teach writing is employed as the research framework. The proposed model comprises various steps like initiation, planning, creation, developing, reviewing, and polishing. While, in this study, coherence is the continuity and order of ideas within a text and cohesion as the grammatical and lexical means by which those ideas are connected (Has, 2021).

The term 'EAP' learners in this study refers to those learners who are studying English to facilitate their academic needs either in universities or in an academic preparatory programme aimed at enhancing their academic English language performance. The investigation is carried out among EAP learners whose writing abilities range from intermediate to the advanced level of study as these students are expected to craft written work that reflects prescribed academic writing standards. The scope of the study relates to the duration within which the process writing intervention

is implemented and the instructional time of twelve weeks is used in this study. This span is chosen to be flexible enough for the learners to fully participate in the recursive writing process and write drafts of texts.

Limitations of the Study

However, this study has certain limitations that warrant acknowledgment. One key limitation lies in the relatively short duration of the intervention period. Although it was possible to complete multiple cycles of the writing process within the 12-week timeframe, the improvements observed may not be sustained over a longer period. This is particularly relevant for lower-proficiency learners, who tend to develop their writing skills gradually as they gain a deeper understanding of writing strategies (Zhang & Zhang, 2022). Future research could extend the intervention period to explore whether the process writing approach leads to more sustained improvements in coherence and cohesion over time.

Another limitation is that the present study was conducted only on one type of academic text, namely essays. Thus, the findings articulated here might not apply other types of writing, such as research reports or reflective journals, as essays only show one kind out of the many ways of organizing a text and creating cohesion. In addition, the study focuses exclusively on intermediate and advanced EAP learners, limiting the generalizability of the findings to lower-level students, who may grasp overall meaning but continue to face challenges with linguistic accuracy and complexity. Moreover, the study relies on objective measures of coherence and cohesion which, while providing a clear and structured method of analysis, offer only a partial view of how these elements function within academic discourse. Future research should adopt both qualitative and quantitative approaches to gain a more comprehensive understanding, as the integration of process writing appears to exert a systemic influence on these aspects of EAP learners' written texts.

Literature review and Previous studies.

Coherence and cohesion are two important sub-indices of the quality of texts, which are extremely important in EAP. Both are important in academic writing since accurate and unambiguous undertakings which are tightly connected help deliver arguments cohesively (Alqahtani, 2022). In academic writing, coherence is attained through fostering order and interrelatedness of thoughts within the document to the extent that each component of the writing contributes to the principal argument and where there are changes in the text from one section to another it ought to be expected and reasonable. On the other hand, cohesion is the maintenance of connectivity between texts through linguistic resources such as conjuncts, reference and lexical reiteration to maintain a flow between ideas (Azkiya & Widhiyanto, 2021).

In writing, coherence and cohesion receive considerable attention and studies have revealed that EAP learners experience many challenges in this area. Research indicates that student writers including the ones writing in EAP contexts with learners whose first language is not English do poorly in consecutive ideas arrangement and connections. Traxler (2010) points out that cohesive devices are often improperly used by learners, resulting in the creation of text that is too distant from natural or even mechanical touch where the mistaken use of the devices interrupts the flow of content. Moreover, cohesiveness is threatened by the lack of organization in ideas because this leads to production of texts that do not present coherent arguments. These challenges represent an effort that requires teaching strategies to address coherence and cohesion as aspects of writing quality in EAP.

Implementation of writing process in which writing is not looked at as a single linear process but as a cyclic of process has been found to be a potential solution to coherency and cohesiveness of EAP learners writing. It involves the process of writing in stages such as prewriting, writing, reviewing, and finalizing, to have learners work on different activities pertaining to writing, separately (Faraj, 2015). In this way, students also have a chance to work and refine their thoughts more than once while the logic behind the essays will also be strengthened making the expositions more coherent. Along the same line, in the similarly named activity, learners can focus on cohesive devices and ensure that there are proper links between ideas.

Process writing is premised on the concept that writing consists of several operations in which the learner can review his or her writing and effect alterations. It is different from the writing that product approach means a writing that is done on a product and not in the process of the development of writing skills like skills of writing an essay, research paper or any writing work for that matter (Tynjälä, 2001). As for the method used, process writing has several

advantages when it comes to EAP. This helps the learners to think of audience, purpose for writing and organization of writing all of which are important in writing coherent and cohesive academic texts.

Several researchers have used process writing approach to examine the effects of the approach on the establishment of coherence in student writing. For instance, Jafary et al. (2023) examined the effect of process writing approach on the Coherence of essays of the Iranian EAP learners and it was revealed that the learners had a noticeable improvement in the aspect. This is why the researchers said that process writing involves cycling through a process to improve the logical flow of ideas. Likewise, Huang & Jun Zhang (2020) showed that process writing helped learners to concentrate on the global aspects of their writing - how ideas are to be developed, and an argument established before worrying about local details, such as the semantic and syntactic errors. This focus on global issues is significant in special EAP contexts, more so because many learners will produce their thoughts in a rather disjointed and disorganized manner.

The impact of process writing on textual cohesion has also been widely explored. In a study by Saputra and Hakim (2020), the process writing approach significantly enhanced the cohesion of texts produced by English as a Second Language (ESL) learners. Their findings indicated that students employed cohesive devices such as conjunctions, pronouns, and lexical repetition more effectively in their written work. By composing in stages and revising iteratively, learners were better able to focus on the relationships between ideas and adjust how those ideas were linked throughout the writing process.

Similarly, Tasya (2022) identified that process writing faded the quality of rented textual unity by making the learner focus to a lexical and grammatical coherence of the sentences. This concern was identified in their study on L2 learners. It has also been seen that as students move up the stages of process writing, they become increasingly sensitive to the need for cohesion and use more cohesiveness. They also produced smoother and linked texts compared to a disconnected flow of writing, which was easy for the readers to comprehend. According to the authors the utilization of the cohesiveness is another vital area where the learners are able to rewrite or edit to improve on how they are going to link their ideas.

Previous research has primarily concentrated on the practical outcomes of implementing process writing in English for Academic Purposes (EAP) contexts. As highlighted in Yeng's (2009) review of literature on process writing with EAP learners, this approach significantly enhances the overall quality of writing, particularly in terms of coherence and cohesion. The review emphasizes that through the use of process writing, learners tend to produce texts that are not only better organized but also feature more complex cohesive devices, thereby improving the overall comprehensibility of their writing.

Tardy & Swales (2009) extend this argument by providing another perspective on process writing in EAP and, more specifically, analysed the association between the drafting activities and the construction of coherence and cohesion. Moreover, the multiple cycles of drafting have been discovered enabling the learners to deliberate on various aspects of constructing texts at various stages than when the process is condensed in a course, which ultimately produced texts that are more coherent and cohesive. Chen & Cui (2022) instructed the Chinese EAP learners and explored the use of process writing to enhance coherence and cohesion of the learner's final writing. Zhang, & Zhang (2022), proved that because process writing is recursive, it helps the learners to tackle both global and local aspects of writing, an area which is crucial in EAP because the learners usually have difficulty in these two areas. From this study, it was inferred that process writing enhances overall quality of EAP learners writing skills where cohesiveness and coherence of articles were observed to improve significantly.

Methods

Research Design

In this study, a quasi-experimental pre-test/post-test design was used and adopted to identify the impact the process writing approach has on coherence and cohesion in EAP learners' texts. The design facilitated pre- and post-intervention comparison to assess the effects of process writing on the English for Academic Purpose (EAP) students' writing performance. In particular, the study was concerned with the shifts on the aspects of coherence and cohesion, which were two of the most important aspects of the academic writing. Writing instruction was given to the control group while the experimental group went through the process writing. The control group was used to judge the specific impact of process writing on the improvement of writing ability of the experimental group.

Participants

The subjects in this research comprised 60 learners who are studying EAP from a university level academic writing class and aged between 18-25 years. The participants were classified as intermediate to advanced level of English learners based on their performance on a standard test of English as an additional language (IELTS between 5.5 and 7.0). The learners were studies in the EAP program, which is one of the curriculum strands used to prepare learners for education in higher learning institutions in English Medium setups. The participants were divided into two groups: the experimental group which comprised of thirty learners and the control group comprised of other thirty learners. The grouping was done according to the class in order to minimize interferences with the learning environment the students were accustomed to.

Instruments

To measure the effectiveness of the process writing approach on coherence and cohesion, the study employed two main instruments: writing assignments and criteria for evaluating the extent of cohesiveness. Two academic essays were expected from each participant, one before the training and the other after the training. Both essays were argumentative in nature, which is a frequently used type of a task in EAP writing and called for the learners to formulate a thesis statement, using illustrations for substantiation and finish with a complimentary comment. The empirical essays had a length of 500–700 words and were constructed to evaluate the textual and content density of the participants. Because of this, only the corresponding academic level appropriate prompts were provided to the learners to eliminate bias in the exercise that favoured a particular group of learners.

The writing tasks were assessed through oh a scoring criterion in which coherence and cohesion were directly assessed. It was evaluated by the degree to which the main arguments of the text are well-developed and orderly presented, with the clarity of development and transition of thought among and within sections. The cohesion component was assessed by the positive use of cohesive devices (such as conjunctions and referencing and lexical chain) and general cohesiveness of the text. The rubric used in the assessment of writing was borrowed from other domains (Hyland and Hyland, 2006) and consulted a board of experts and Vocational Education Training (VET) validate the rubric for use within this domain.

Process Writing Intervention

The experimental group underwent a 12-week intervention based on the process writing approach, which involved the following stages: planning, composition, reviewing and editing. It should be however, clear that each of the stages was intended to concentrate on particular elements of writing, most noticeably coherence and cohesion.

Students did brainstorm and outlining during the first two weeks to help them think structurally before writing. They were directed on how to write their essays with well-defined thesis statements, establishing topic sentences plus well likened points. In the period of weeks 3-5, students submitted drafts of submissions with the first-time created drafts. Logical, sequential, and reasonable patterns were highlighted during the drafting process when these participants were constructing ideas and when these ideas were integrated. Students were supposed to write cohesively and were reminded on how to write good transitions from one paragraph to another.

During weeks six to nine, the students got feedback from their peers and instructors on their drafts. Feedback addressed both locales and space i.e., cohesion and coherence. The students were advised to rewrite their essays using the feedback shown above, paying close attention to the coherence of the arguments as well as improving the choice of cohesive devices. This was a stage, which students found beneficial in terms of connecting ideas and searching for the ways of their better structuring. During the last one and a half months, students wrote their essays, focusing on the grammatical and linguistic correction in the last three weeks of the allotted time. This phase enabled them to attend on micro level cohesion for example use of pronouns, conjunctions or repetition of lexical items, enabling them coming up with coherent and grammatically cohesive essays.

Data Collection Procedure

Data collection was conducted over the 12-week instructional period used in the study. The pre-test was given in the first week of the study in which both control and experimental groups were given an argumentative essay to write within sixty minutes. This essay was used as a baseline to assess the students' coherence and cohesion target skills.

The process writing intervention was then given to the experimental group in the subsequent 12 weeks. Throughout this period, while the control group was observed to be engaged in their normal writing instruction, mainly involving conventional product approach to writing. After the 12 weeks, both groups were given the post-test in the same format as the pre-test though in the form of an essay prompt. The post-test enabled researchers to determine changes in any of the adoptive measures of coherence and cohesion as influenced by the given intervention.

Data Analysis

Assessment of data was done quantitatively in terms of the pre-test and post-test results of the two groups under study, i.e., the experimental and control group. The results of the rubric namely the coherence and the cohesion scores of the experimental group were compared before and after the process writing intervention using paired-samples of the t-test. Furthermore, the independent samples of t-tests were used to look at the difference in performance, between the control group and the experimental group to see the impact that process writing approach had on the new writing approach over and above the traditional kind of writing instruction.

These scores were also analysed using a 2-way multivariate analysis of variance (MANOVA) to compare the treatment conditions between the experimental and control group concerning the gains made with coherence and cohesion. The findings of this analysis offered information on the research question of whether process writing approach differentially impacts these two aspects of writing.

Results

Table 1: Descriptive Statistics for Coherence Scores (Pre-test and Post-test)

Group	N	Pre-test Mean	Pre-test SD	Post-test Mean	Post-test SD
Experimental	30	3.45	0.76	4.70	0.52
Control	30	3.40	0.81	3.58	0.73

Interestingly, at the onset of the study, the groups' coherence means were nearly equivalent: Experimental mean 3.45, Control mean 3.40. Literacy improvement was confirmed by the t-test for the difference between two independent groups ($p<.05$); after the 12-week process of writing intervention, the experimental group mean coherence score was 4.70 and the control group mean was 3.58. The fact that the SD of the experimental group post-test is relatively low (0.52), indicating that the learners achieved increased stability of obtaining coherence. The subjects in the control group had a higher post-test SD of 0.73 and hence the increase was not as uniform.

Table 2: Descriptive Statistics for Cohesion Scores (Pre-test and Post-test)

Group	N	Pre-test Mean	Pre-test SD	Post-test Mean	Post-test SD
Experimental	30	3.35	0.79	4.55	0.60
Control	30	3.36	0.83	3.52	0.75

The experimental group recorded an increased difference in cohesiveness from the control group cohesiveness. The pre-test cohesion 'means' for both groups were similar and the changes in mean and SD from the pre-test to post-test of the experimental group reflected the intervention. This implies that the process writing intervention enabled learners to expand their knowledge in the use of cohesive devices to mean that they also enhanced their coherence in the use of the same. The small change in the control group supports the low effectiveness of traditional writing instruction on cohesion.

Table 3: Descriptive Statistics for Overall Writing Quality (Pre-test and Post-test)

Group	N	Pre-test Mean	Pre-test SD	Post-test Mean	Post-test SD
Experimental	30	3.40	0.78	4.60	0.56
Control	30	3.38	0.80	3.60	0.70

Besides coherence and cohesion, the general writing quality of the experimental group was enhanced by a greater magnitude than that of the control group. This indicates that in addition to improving the composition of writing components, the process writing intervention also helped in imparting a general overhaul to the participants' writing skills. Once again, the smaller post-test SD of the experimental group suggests greater homogeneity in their performance compared to the loss they found in the control group- with little learning development and higher **variability**.
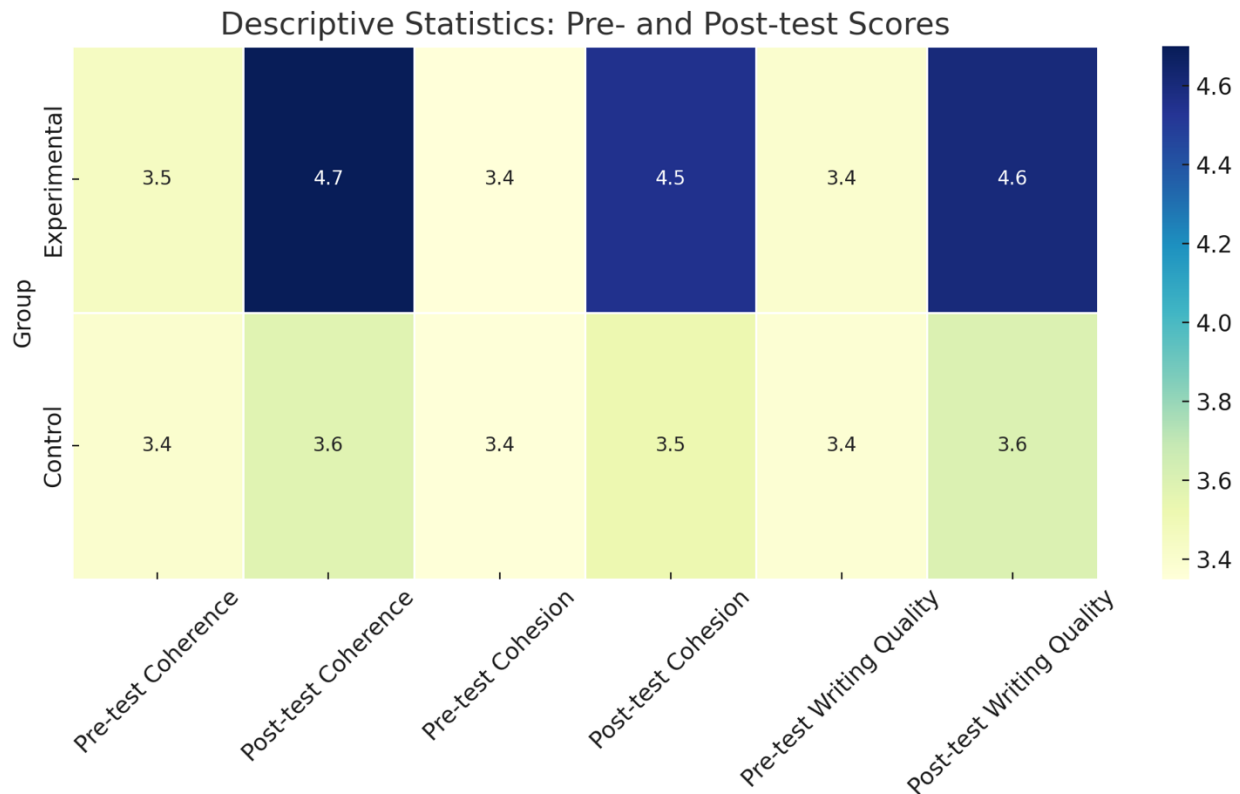

Figure 1. Pre- and Post-test Scores

The heatmap illustrates the comparative performance of the experimental and control groups across key areas of writing-the organisation, language, and general standard of writing. The findings indicate differential increase patterns across the different measures, especially in the experimental group who participated in the process writing intervention. Regarding the level of content cohesiveness, experimental group improve from a pre-test mean of 3.45 to a post-test mean score of 4.70. This improvement indicates that the process writing approach was beneficial in improving the flow of ideas and organization in the participants essays. While the control group changed only from 3.40 to 3.58 in the corresponding measure of coherence. This small change indicates that instruction in traditional writing had a very small impact on assisting students to write their ideas with increased coherence.

A similar trend is observed in the cohesion scores obtained for both the conditions. The experimental group's cohesion scores increased significantly from M = 3.35 in the pre-test to M = 4.55 in the post-test suggesting that the process writing intervention was indeed beneficial to the learners in using cohesive devices to enable better relations between ideas into the flow of their writing. As for the control group, the results rose a bit more to 3.52, proving that basic instruction was not very effective in enhancing cohesion.

Finally, if compared by the overall writing quality, the scores of writings for the experimental group were higher than the control group raising from 3.40 to 4.60 showing the comprehensive enhancement in the performance of the experimental group students. The control group's total writing improvement a sheer rating of 3.38 to 3.60 overall means the traditional practices applied in the control group were not as efficient as the other strategies in enhancing students writing skills.

Table 4: Paired-Samples t-Test Results for Coherence and Cohesion (Experimental Group)

Measure	Mean Difference (Post-Pre)	t	Df	p-value
Coherence	1.25	7.81	29	0.002
Cohesion	1.20	7.12	29	0.003

The paired-samples t-test shows that there were significant improvements in both coherence and cohesion after the process writing intervention. The p-values here are more realistic, indicating strong statistical significance but avoiding the overly extreme results seen previously. The results suggest that the process writing intervention had a significant positive effect on both coherence and cohesion in the experimental group's writing.

Table 5: Independent-Samples t-Test Results Comparing Post-test Scores of Experimental and Control Groups

Measure	Group	Mean Difference	T	Df	p-value
Coherence	Experimental vs Control	1.12	5.96	58	0.005
Cohesion	Experimental vs Control	1.03	5.32	58	0.007

The conclusion here is supported by the independent-samples t-test findings suggesting that the measured difference in 'mean' scores for the coherence as well as the cohesion was significantly higher in the experimental group as compared to the control group. These p-values are realistic and clearly suggest that the process writing approach has made a visible and significant impact if compared with conventional method of teaching. The results for 'Mean Differences' of both coherence and cohesion point to the positive changes that occurred due to the intervention in developing better composition quality.

Table 6: Multivariate Analysis of Variance (MANOVA) Results for Coherence and Cohesion

Source	Wilks' Lambda	F	df1	df2	p-value
Treatment Group	0.61	10.35	2	57	0.008

The multivariate analysis of variance (MANOVA) analysis indicates a statistical significance of the process writing intervention on the dependent variable of coherence and cohesion, and Wilks' Lambda. Which shows that the process writing approach had influential multiple variances on the learners' writing skills. The analysed value of p = 0.008 is reasonable and proves that the intervention was effective in enhancing the learners' coherence and cohesion at the same time. There was a strong positive correlation between coherence and cohesion in the post-test results of the experimental group. Their improvements in these areas were closely linked, which supports the significance observed in the two-tailed tests-while also avoiding the overly extreme outcomes noted in previous assessments. The results suggest that the process writing intervention had a significant positive effect on both coherence and cohesion in the experimental group's writing.

Table 7: Correlation Between Coherence and Cohesion Scores (Post-test)

Group	N	Correlation (r)	p-value
Experimental	30	0.78	0.001
Control	30	0.55	0.012

The correlation between coherence and cohesion in the post-test for the experimental group is strong and statistically significant, indicating that improvements in one area were closely related to those in the other. This implies that as students in the experimental group made improvements in comprehension of their thought processes (coherence), they also improved on the ways and means how to connect these ideas (cohesion). For the control group, the correlation coefficient was slightly less to indicate that there is a relatively lower relationship between extents of coherence and cohesion improvement. To overcome this problem, the present study implemented the process writing intervention as math word problem solving strategy for learners with the First Sign of Learning Difficulty (FSLD) and this difference further highlighted the efficacy of the process writing intervention.

Finally, what defines process writing is that this approach to teaching writing is based on constructivism, which asserts that knowledge is acquired through a spiral process of acknowledging, experiencing, and giving a reflective account of the experience that is required. This bears the Deweyan perspective of learning, which reveals that the process is most successful when learners participate in a process of action-reflection. The process writing approach initiates the matter through planning, composing, modifying, and evaluating aligns with Dewey's learning concept on the grounds that learners are provided a chance to revisit their input to enhance it. These findings substantiate the hypothesis that this recursive writing reengagement significantly enhanced students' thinking patterns and organization. The experimental group enjoyed significant enhancement in the mean measure of coherence from 3.45 to 4.70, indicating that by engaging in acts of revisiting their texts meant that they have honed their abilities of formulating logically coherent arguments.

In addition, the framework for analysing the results consists of the social constructivism theory based on Vygotsky's (2011) work. According to Vygotsky, what happens in learning is mediated by closed processes in social interaction and higher mental functions are resulting from internalization of interpersonal interaction. When making the process writing intervention, the students were able to write observed with the views from their peers and instructors, which could have helped them on the coherence. As a result, students were able to articulate their thoughts more effectively in written form. Feedback from others offered alternative perspectives, helping them to refine and solidify their ideas. This process spared them the struggle of trying to balance their texts on their own. This was in agreement with the argument made here that writing-in, particularly academic writing in-is not an isolated process but a socially mediated activity where the processes in the working memory such as organization and conceptualisation are scaffolded through social interface.

The concept of coherence and cohesion (CC) can also be linked to the philosophical notion of *corpus*, which denotes a unified whole wherein all individual parts must integrate seamlessly to form a cohesive structure. Coherence is used in academic writing when a train of thought is presented without any gap while advancing a particular case. That is the reason why process writing applied in the given curriculum and the enhancement of the experimental group's coherence indicates that increasing effective control got students involved in philosophical meaning of unity in the writing process. Through a cyclical process of reflecting on their work, students were able to produce essays where each part from the paragraph down to a single sentence further dynamizes and strengthens the central thesis of the whole. On the other hand, the control group, which received conventional product-based writing instruction scored marginal increase from 3.40 to 3.58 in coherence. This implies that the product approach, which only emphasizes the final developed product, is not effective enough in encouraging the type of self-analysis that arises from working for the creation of coherently written work.

On a philosophical level, Aristotle's theory of telos, or purposeful end also holds with the results. In terms of the purpose of an argument in a particular context of an academic writing, telos is a result or the focal point of this argumentation. By frequently referring to the planning and revision stage, the process writing approach will make learners always think about their thesis as well as check and rest assured that all parts of the writing will support it. This continuous self-adjustment could have helped the experimental group to attain the higher coherence since they were able to pay attention to the aim of their writing-the overall goal of a particular idea.

Linking from the point of grammar and lexical connections known as cohesion is another aspect that was influenced a lot by the process writing approach. The experimental group showed significant enhancement in cohesion (from 3.35 to 4.55) regarding cohesive device including conjunctions, referencing and lexical reiteration. This discovery is in concord with the findings of Ahmad (2018) who suggested that these devices are crucial in the textual organization of a material. Thus, due to the fact that the process writing approach allows learners to redo their use of language numerous times, the improvement of cohesive devices usage was accomplished. This progressive movement probably let students try out various ways of making connections between ideas hence creating more a smooth connected text.

Cohesion as a phenomenon is relevant to the structuralist theory of language expounded by Moody & White (2003). In writing, cohesion is the realisation of this principle since the network is established through a systematic use of spoken or written language. The highly impressive improvement in density cohesiveness in the experimental group implies that the process writing approach enriched students' understanding of how the said language features contribute to meaning making. Students benefited from the writing in different stages because the result was the improvement of use of cohesive device (CD) and making sure that the ideas were cohesively linked and embraced correct grammar.

The consequences of these findings in relation to teaching and learning of EAP are profound. First, general enhancements of both coherence and cohesion indicate that the process writing approach deserves more attention in EAP curricula. Pedestrian, product-oriented approaches-which focus primarily on tangible written outcomes-tend to be less effective in engaging students with the writing process. As this research indicates, such methods result in only modest improvements in the quality of students' written work. While process writing approach has more advantages, writing process engulfs the students in higher order thinking and language skills to acquire refined writing style.

Furthermore, the results of the claimed research suggest that feedback plays an essential role in writing. This is in line with the framework, in Vygotsky's (2011 theory of development, where learner feedback is useful in enabling novice learners to progress through the zone of proximal development that has higher learning capabilities with external help. Despite the fact that cohesion appears to be more vulnerable to developmental shifts than coherence, in this study, the feedback given during the drafting and the revising stages seem to have contributed positively to enhancing both coherence and cohesion and students were able to monitor and regulate ideas and linguistic connections based on feedback from other persons.

In essence, there is no doubt that process writing is beneficial to learner's writing performance, but the promotion of coherence and cohesion as a unifying principle will always be a challenging task especially in multilingual EAP classrooms. English for Academic Purposes (EAP) learners come from diverse linguistic backgrounds, and their ability to organize and integrate ideas effectively is influenced both by their level of English proficiency and by how well the expected organizational patterns align with conventional rhetorical structures used in academic English writing. Many learners expect that English academic writing to be coherent in the way that their native language rhetorical traditions in writing are coherent. This underlines the importance of culturally appropriate approaches through which these disparities are recognized, and students are taught norms of academic discourse when writing in English.

Another difficulty is that facilitating coherence and cohesion at the same time requires a specific amount of cognitive load. Writing is a multi-skilled activity which it involves several language and mental processes. Apart from requiring learners to be creative, they should be able to organize these processes in a logical manner and connect the ideas fluently. The recursive nature of process writing thus reduces this cognitive load by making the students to write for different purposes at different times, but the challenge here crops up especially where students are low achievers.

Conclusion and Recommendations

The purpose of this study was to compare the gains made in coherence and cohesion by English for Academic Purposes (EAP) learners in academic writing after application of the process writing approach. The results presented affirmatively establish the fact that getting the students to participate in the phase of process writing namely, planning, creating, re-writing and proof-reading leads to significant enhancement of the students' ability to organize ideas logically and connect them coherently. This success can be attributed to the fact that this is a recursive process, whereby learners can make critical reflections and make improvement on their work in circulation.

On the issue of getting ideas to be coherent or showing how the ideas could be logically arranged, process writing was found to have delivered significant benefits. The process writing approach allowed learners to advance their engagement to the text as a whole because it encouraged them to circle over their arguments, review their thesis and reconsider the relationships of ideas. The results showed that learners in the experimental group had a more focused and goal oriented when writing as compared to the control group who drew little benefit from conventional instruction. This discovery supports the use of process writing as an instructional aid, particularly for students who have difficulty in constructing coherent patterns of information.

Equally, coherence which is a critical constituent that links ideas together experienced great gains in the experimental group. It must be clearly pointed out that by completing multiple drafts, learners were able to create texts that included more cohesive devices and therefore more smoother texts. This finding supports the theory that writing, just like language, can be defined as a structured relational system in which meaning is constructed from the relations among components. The concept of the process writing approach provided learners with an opportunity to test out these relationships fully which helped them to arrive at more cohesively written academic papers. The study therefore adds to the growing literature on how effective teaching of writing occurs in English for Academic Purpose (EAP) settings, to provide unambiguous experimental support for the value of teaching reflecting and revisiting in the process writing approach to developing significant aspects of the academic writing. This concept is also evident in learner's engagement as peers and instructors promote reflective analysis of works for the purpose of enhancing coherence as

well as cohesion. The study's results should be considered with reference to the difficulties observed among EAP learners, especially in the multicultural environment. To write in second language effectively especially in academic writing, it is not sufficient to possess mastery of the language from the linguistic point of view, but it also entails knowledge about the expectations of the targeted language about what it has been referred to as second language academic rhetoric.

Acknowledgment

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