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Process-Based vs. Product-Based Approaches in Teaching Academic Writing: A Comparative Study

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Abstract
Academic writing is essential in higher education, especially for English as a Foreign Language (EFL) learners who need to adhere to academic and publication standards. This research was carried out in the English Education Department of a public university in Indonesia, involving 40 undergraduate students aged 19 to 22 with intermediate English competence. Employing a mixed-methods quasi-experimental design, two intact classrooms were allocated distinct instructional methodologies during an eight-week period: one engaged in process-based teaching, while the other participated in product-based teaching. Quantitative analysis utilizing paired and independent sample t-tests indicated that the process-based group exhibited substantially larger improvement ($M = 78.65$, $SD = 4.88$) compared to the product-based group ($M = 73.40$, $SD = 5.12$), $t(38) = 3.17$, $p < 0.01$. The process-oriented approach also resulted in enhanced coherence, vocabulary, and structure. Qualitative findings from student interviews and reflections corroborated these outcomes, indicating enhanced engagement, motivation, and confidence among process-oriented learners. The results demonstrate that recursive writing techniques and iterative feedback significantly promote enduring writing advancement. The study advocates for the incorporation of process- and product-oriented components to improve EFL academic writing instruction in Indonesian higher education.

Keywords: academic writing, process-based approach, product-based approach, EFL instruction, Indonesian higher education

Introduction

Academic writing is fundamental to higher education, acting as a medium for knowledge distribution and fostering critical thinking, linguistic accuracy, and discipline identity (Butson & Spronken-Smith, 2024; Faisal, 2024; Shahzad et al., 2024). In English as a Foreign Language (EFL) situations, it plays a crucial role in connecting language proficiency with academic achievement and worldwide publication standards. Numerous researchers worldwide have emphasized that proficiency in academic writing allows learners to engage meaningfully in scholarly discourse and professional knowledge networks (Getahun et al., 2021; Gupta et al., 2022; Zamiri & Esmaeili, 2024). EFL students often struggle with articulating ideas coherently, sustaining rhetorical consistency, and adhering to academic discourse rules (Ramzan et al., 2023). These issues suggest that instructing

academic writing in EFL contexts requires not only linguistic correction but also pedagogical practices that cultivate writing as a recursive, reflective, and meaning-making endeavor.

In the context of Indonesian higher education, academic writing has gained prominence due to government-initiated educational reforms that prioritize research, innovation, and global competitiveness. Policies like *Kurikulum Merdeka* and the Indonesian Qualification Framework (KKNI) explicitly require students to generate academic papers, theses, and research-based outputs as conditions for graduation and professional accreditation (Rohmah et al., 2024; Ro'is et al., 2024; Syahrir et al., 2024). Nonetheless, despite these policies, various studies have repeatedly indicated that Indonesian undergraduates continue to face challenges in achieving the anticipated standards of academic writing in English (Djatmika et al., 2023; Subandowo & Sárdi, 2023). Common issues encompass restricted vocabulary, inadequate argumentation structure, insufficient coherence, and a deficient understanding of academic register. At the institutional level, issues are exacerbated by substantial class numbers, inadequate exposure to genuine academic materials, and restricted chances for feedback or revision. These aspects collectively indicate that the issue transcends linguistic limitations; it is pedagogical and methodological in essence.

Two predominant pedagogical models have historically influenced academic writing instruction: the process-oriented and the product-oriented approaches. The process-oriented paradigm underscores writing as a cyclical sequence of planning, drafting, obtaining feedback, modifying, and editing. It promotes learner autonomy, collaboration, and reflection, regarding writing as a dynamic process instead of a static product (Hiebel et al., 2021; Mendes de Oliveira, 2024). In contrast, the product-oriented model emphasizes the replication of exemplar texts, grammatical precision, and adherence to established frameworks. This illustrates a conventional, teacher-centric model in which the final text, rather than the process, serves as the criterion for success (Yeung & Bygrave, 2022). Although both models offer educational benefits, they target distinct aspects of writing development: the process model fosters creativity, critical thinking, and metacognition, while the product model enhances precision, organization, and adherence to academic standards.

In Indonesia, the majority of academic writing courses predominantly utilize product-oriented training, largely owing to institutional constraints to provide grammatically accurate and formally structured academic works. This focus on textual precision frequently neglects the cultivation of students' rhetorical awareness and self-regulated writing abilities (Feng, 2025; Sudimantara et al., 2025). Nonetheless, despite continuous academic discourse, empirical research explicitly contrasting process-based versus product-based training is scarce and disjointed. The current literature in Indonesia generally exhibits three primary empirical shortcomings. Many studies are mostly non-experimental or descriptive, concentrating on students' opinions or attitudes instead of systematically testing learning outcomes through intervention (Baines et al., 2024; Cabanillas-García, 2025; Han, 2025). Secondly, studies utilizing quasi-experimental approaches frequently feature limited sample sizes or brief intervention durations, so constraining generalizability and inadequately reflecting enduring learning progression (Chong et al., 2025; Wordofa et al., 2025). Third, there is an insufficient comparative analysis of how various writing methodologies influence not only performance but also engagement, motivation, and self-efficacy—factors essential for sustained academic writing proficiency (Edison et al., 2022; Herbold et al., 2023; Steiss et al., 2024). Thus, although the theoretical discourse regarding process and product methods persists, there is inadequate evidence from Indonesian classrooms to ascertain which model yields greater pedagogical advantages.

Furthermore, prior studies have frequently seen process-based and product-based training as opposing rather than complementing concepts. This binary framing neglects the contextual variables that may influence their success, like class size, institutional culture, time allocation, and instructor feedback literacy. In institutions with constrained time or resources, a product-based approach may seem more efficient, while in student-centered environments that emphasize formative assessment, a process-based model may produce superior outcomes (Fisac-Garcia et al., 2025; Sidiropoulos et al., 2025; Stoots et al., 2022). The absence of context-sensitive research design has resulted in conflicting findings, complicating the decision-making process for educators and policymakers regarding the most suitable approach—or combination thereof—for Indonesian higher education.

A more comprehensive inquiry is required to bridge this gap—one that integrates quantitative and qualitative approaches to encompass the multidimensional nature of writing growth. The quantitative aspect can demonstrate measurable enhancements in writing quality, but the qualitative

aspect can elucidate how students understand, absorb, and react to teaching methods. This integration offers a comprehensive insight into how instructional design affects cognitive results (e.g., writing proficiency) and affective outcomes (e.g., motivation and confidence). Moreover, employing a mixed-methods framework enables researchers to triangulate results and extract pedagogically significant insights that are both statistically robust and contextually relevant.

This study seeks to rectify empirical and pedagogical deficiencies by executing a mixed-methods quasi-experimental comparison of process-oriented and product-oriented methodologies in the instruction of academic writing to EFL students at an Indonesian public institution. Forty undergraduate students engaged in two separate classrooms that received different instructional interventions for a duration of eight weeks. Quantitative data were obtained using pre- and post-tests assessing writing performance, and qualitative data were acquired through student reflections, interviews, and teacher observations. The research primarily examines: (1) whether instructional strategy produces superior enhancement in students' writing quality, (2) how students perceive and interact with each approach, and (3) the pedagogical implications for EFL writing education in Indonesia.

This research enhances the understanding of academic writing pedagogy in Indonesia by merging statistical and experiential evidence. This study evaluates the relative effectiveness of two primary educational paradigms while contextualizing the discourse within the broader institutional framework of Indonesian higher education. The study aims to guide curriculum designers, teacher educators, and policymakers in developing writing instruction that harmonizes accuracy with creativity, structure with reflection, and product with process. A balanced perspective is crucial for developing EFL learners who are both linguistically proficient and critically engaged, enabling them to produce scholarly writing that adheres to international norms.

Methods

2.1 Research Design

This study used a mixed-methods quasi-experimental methodology to compare process-based versus product-based academic writing instruction. We chose the design to measure writing improvement quantitatively and student impressions qualitatively. The intervention lasted eight weeks in one academic semester. Mixed techniques provided a complete grasp of instructional outcomes. The university's research ethics committee approved the study, and all subjects gave informed consent to assure anonymity, voluntary participation, and ethical research.

2.2 Research Setting and Participants

The English Education Department of the Faculty of Teacher Training and Education of an Indonesian public university conducted the study. The participants were undergraduates taking an academic writing course to improve their English academic writing skills. Based on class enrollment, intact group sampling selected 40 students for the investigation. The participants were mostly women (70%) aged 19–22. Previous courses and institutional exams showed moderate English proficiency. First group (n = 20) received process-based teaching, whereas the second group (n = 20) received product-based instruction. The same instructor taught both groups to ensure classroom consistency and quality.

Table 1. Participant Demographics and Grouping

Group	Number of Students	Gender Distribution (F/M)	Age Range	English Proficiency	Sampling Technique
Process-Based	20	14 / 6	19-22	Intermediate	Intact Group
Product-Based	20	14 / 6	19-22	Intermediate	Intact Group

Table 1 details study participant demographics and group allocation. The 40 undergraduate English Education students were evenly divided into process-based and product-based instructional groups. Each group has 20 students, 14 female and 6 male. Based on institutional norms, 19–22-year-old participants had intermediate English competence. The intact group sampling technique used class divides to create natural group settings with instructional and contextual consistency.

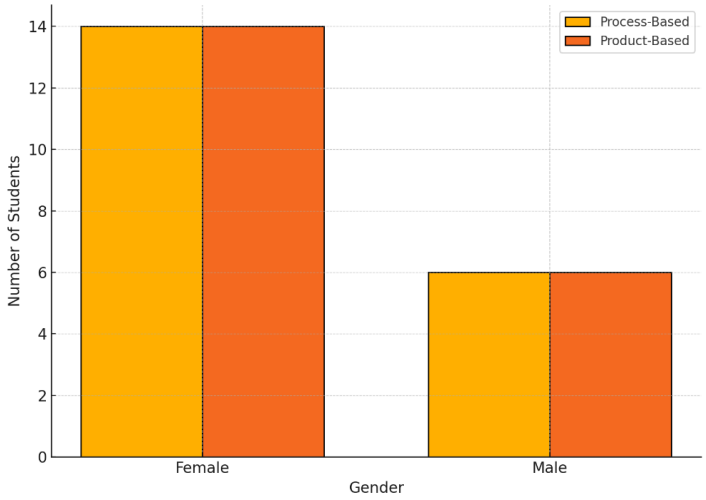

Figure 1. Gender Distribution by Instructional Group

Figure 1 shows gender distribution in the two teaching groups. The process- and product-based groups had 14 female and 6 male students to balance gender and reduce demographic bias. This balanced composition reduces gender confounding and improves group comparability. English education programs typically enroll more women, which explains the steady distribution. Maintaining identical gender profiles improves internal validity and comparative analysis reliability.

2.3 Instructional Procedures

The academic writing course adhered to a structured syllabus consistent with the university's curriculum framework, designed to enhance students' proficiency in composing scholarly texts in English. The course objectives encompassed mastery of academic genres, developing cogent arguments, and adhering to formal writing rules.

Group A, instructed through the process-based approach, participated in iterative writing phases: prewriting, drafting, peer review, revising, and editing. Instruction prioritized student reflection, autonomy, and progression via several drafts. The feedback was constructive, given by both colleagues and the teacher. Students kept writing journals and reflection logs to monitor their writing development and evaluate their learning.

Group B, utilizing the product-based approach, concentrated on emulating model texts and generating superior final versions. The instruction underscored grammar, paragraph organization, and scholarly conventions. Students received guidance through organized input and instructor demonstration. Feedback was limited and evaluative, with students providing only one draft per assignment, consistent with a conventional, results-focused pedagogical approach.

2.4 Materials and Instruments

Teaching materials included writing rubrics, model essays, and instructional approach-specific handouts. We used a self-developed analytic rubric to evaluate pre- and post-test writing tasks on coherence, grammar, vocabulary, and organization. This rubric matches course objectives and academic writing standards. Students rated instructional methods using a Likert scale. We also used semi-structured interview guides to gather qualitative student learning data. A voluntary observation checklist documented classroom dynamics and teaching implementation during the intervention.

2.5 Data Collection Procedure

Data collection was structured across eight weeks. All participants completed a pre-test writing exercise in the first week to assess academic writing skills. Group A received process-based teaching and Group B product-based instruction for six weeks. The final week included a post-test writing assignment to evaluate progress. Selected students engaged in semi-structured interviews after receiving a Likert-scale questionnaire. Face-to-face classrooms collected all data, with some written work provided online by the institution.

2.6 Data Analysis

SPSS analysed pre- and post-test quantitative data. Following descriptive statistics, paired sample t-tests measured within-group improvement and independent t-tests compared between-group differences in writing scores. ANOVA examined score variations. Thematic analysis of student interviews and reflection logs revealed learning experiences and perceptions. Coded open and axially, then categorized themes. Data triangulation and member-checking validated participants' responses and interpretations to ensure trustworthiness.

Result and Discussion

3.1 Pre-Test Results

The pre-test was conducted for both the process-based and product-based groups to evaluate their initial academic writing skills before to the educational intervention. Descriptive statistics indicated that the process-based group achieved a mean score of 68.45 (SD = 5.21), whereas the product-based group attained a mean score of 67.90 (SD = 5.47). These ratings suggest a comparable level of writing proficiency from the beginning. An independent samples t-test was performed to ascertain if a statistically significant difference existed in baseline performance between the two groups. The findings indicated no significant difference ($t(38) = 0.35$, $p > 0.05$), affirming that both groups commenced from a similar level of academic writing skill. This equivalency is crucial for validating the comparison analysis, as it eliminates initial group differences as a confusing variable. The findings indicate that alterations in post-test performance can be more reliably ascribed to the educational method employed, rather than to pre-existing differences in writing proficiency. Establishing baseline similarity enhances the internal validity of the study and bolsters the dependability of subsequent findings concerning the efficacy of process-based and product-based writing education.

Table 2. Pre-Test Academic Writing Scores

Group	Mean Score	Standard Deviation (SD)
Process-Based	68.45	5.21
Product-Based	67.9	5.47

Table 2 shows both teaching groups' pre-test academic writing descriptive data. The process-based group had a mean score of 68.45 with a standard deviation of 5.21, whereas the product-based group had 67.90 with a standard deviation of 5.47. These numbers show that both groups started the study with equivalent academic writing skills. The means and standard deviations establish baseline equivalency, which is necessary to properly compare the two instructional methods.

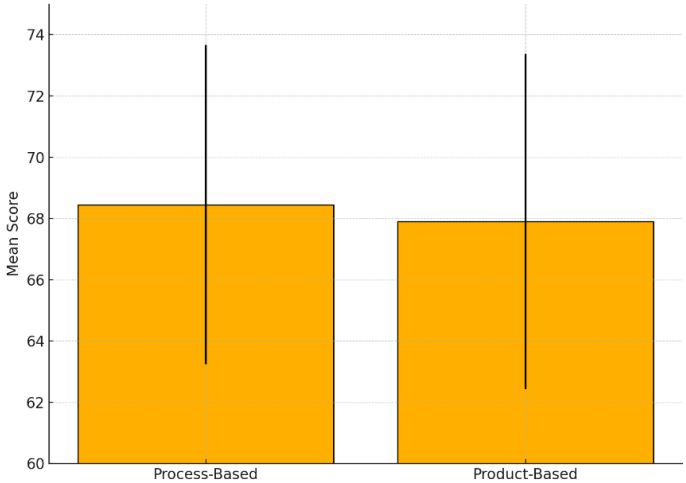

Figure 2. Pre-Test Academic Writing Scores by Group

Figure 2 shows the pre-test academic writing scores for the process-based and product-based groups. The bar chart shows nearly identical mean scores, with few standard deviations. This supports

the statistical finding that there was no significant difference in writing ability between groups at the outset.

3.2 Post-Test Results

A post-test was conducted for both groups following the educational intervention to evaluate their academic writing progress. The process-based group attained a mean score of 78.65 (SD = 4.88), indicating a notable enhancement over their pre-test mean of 68.45. Simultaneously, the product-based group achieved a post-test mean of 73.40 (SD = 5.12), reflecting significant improvement from their pre-test mean of 67.90. Paired sample t-tests were performed for each group to assess the significance of improvement. The process-based group exhibited a statistically significant improvement ($t(19) = 8.52$, $p < 0.001$), whereas the product-based group also shown a substantial enhancement ($t(19) = 6.47$, $p < 0.001$). A t-test for independent samples comparing post-test scores between groups indicated a significant difference ($t(38) = 3.17$, $p < 0.01$), favoring the process-based group. The results indicate that whereas both instructional methods effectively enhanced academic writing skills, the process-based approach resulted in superior overall performance improvements. This conclusion underscores the educational significance of recursive writing instruction, which prioritizes ongoing feedback, revision, and learner involvement during the writing process, resulting in a more profound effect on students' academic writing skill compared to the product-oriented model.

Table 3. Post-Test Academic Writing Scores and Improvements

Group	Pre-Test Mean	Post-Test Mean	Improvement	Post-Test SD
Process-Based	68.45	78.65	10.2	4.88
Product-Based	67.9	73.4	5.5	5.12

Table 3 compares pre-test and post-test scores and writing improvement for each group. Process-based group mean score increased 10.20 points from 68.45 to 78.65. The product-based group rose 5.50 points to 73.40. Smaller post-test score standard deviations indicate more consistent group performance. Both instructional methods improved academic writing, but the process-based approach showed a greater and more consistent increase, confirming its usefulness in facilitating deeper writing growth.

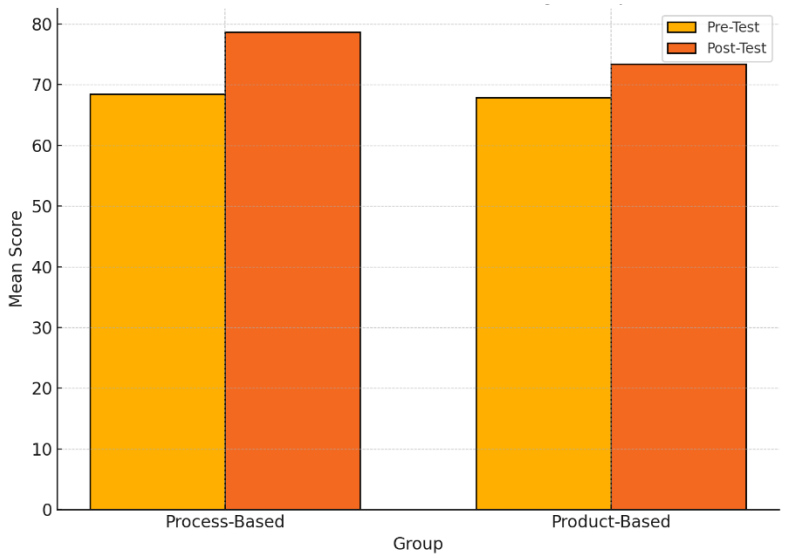

Figure 3. Pre-Test and Post-Test Scores by Group

Figure 3 shows both teaching groups' pre- and post-test mean scores. The process-based group has a taller post-test bar, indicating a greater score rise, whereas the product-based group does too. The clear disparity between pre- and post-test bars for each group shows that instructional interventions worked. The figure highlights the process-based group's superior performance, supporting statistical

findings. This visual overview supports the idea that the process-based approach's iterative, feedback-driven teaching paradigm improves students' academic writing.

3.3 Comparison of Writing Aspects

A component-level analysis was performed to provide a more profound understanding of particular areas for enhancement in students' academic writing. Four principal elements were evaluated: coherence and cohesion, grammatical accuracy, lexical usage, and organizational structure. The process-based group surpassed the product-based group in all aspects, especially in coherence and cohesiveness, where pupils exhibited enhanced logical progression and paragraph interconnectivity. Their grammar and vocabulary scores demonstrated substantial improvement owing to ongoing feedback and revision chances. The product-based group shown moderate improvements, particularly in grammar and organization, presumably attributable to explicit instruction and the utilization of model texts. Nonetheless, their advancement in coherence and vocabulary was less evident. The findings demonstrate that the process-oriented approach enhances overall writing quality while promoting equitable development across all writing dimensions. Tables and charts depicting average component scores indicated greater consistency and performance in the process-oriented group. The visual representations corroborate the quantitative findings and indicate that recursive and reflective writing practices—central to the process-based model—allow learners to enhance various aspects of their writing concurrently, while the product-based approach focuses more narrowly on correctness and structure, often sacrificing depth and fluidity.

Table 4. Component-Level Writing Performance

Writing Aspect	Process-Based Group (Mean Score / 25)	Product-Based Group (Mean Score / 25)
Coherence & Cohesion	19.2	17
Grammar & Accuracy	19	18.2
Vocabulary Use	20.1	17.5
Organization & Structure	20.3	18

Table 4 displays academic writing performance by coherence and cohesiveness, grammar and accuracy, word utilization, and organization and structure. The process-based group scored higher in all components, especially language use (20.1) and organization (20.3). The product-based group scored somewhat lower, but grammar and correctness were best (18.2). It appears that while both groups improved, the process-based method promoted more comprehensive writing skills. The table shows how component-level analysis might uncover instructional results that total scores may miss.

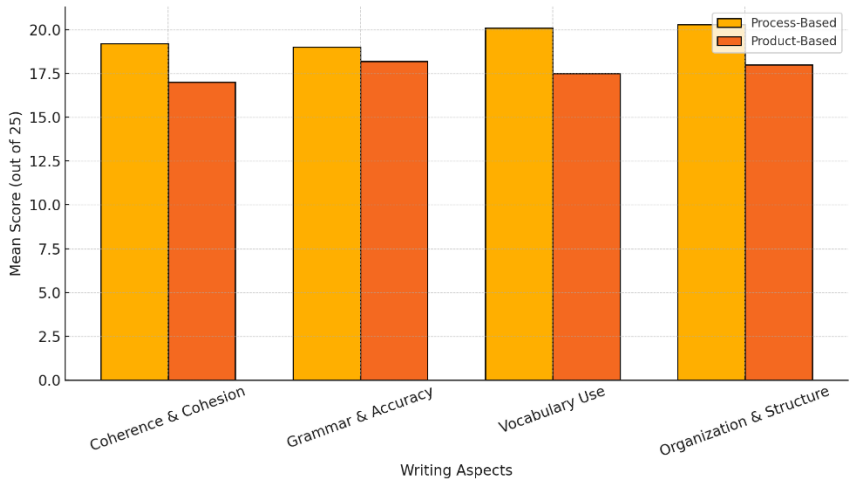

Figure 4. Component-Level Comparison of Academic Writing Performance

Figure 4 shows process-based and product-based writing component ratings. With each set of bars representing a writing aspect, the process-based group excels in all categories. The biggest gaps are in

vocabulary use and coherence, where process-based training seems to have improved lexical growth and logical structuring. The graphic illustrates how recursive, feedback-rich education improves many writing skills. This strengthens the pedagogical case for process-based strategies to improve academic writing.

3.4 Students' Perceptions (Quantitative)

A post-intervention questionnaire utilizing a 5-point Likert scale was conducted to evaluate students' perceptions of the instructional methods. The poll concentrated on three fundamental aspects: involvement, motivation, and perceived efficacy of the academic writing education. Students in the process-based group exhibited greater involvement, with a mean rating of 4.4, in contrast to 3.6 in the product-based group. In terms of motivation, participants focused on process exhibited a greater sense of ownership and satisfaction in their writing tasks (M = 4.3), whereas the product-oriented group reported lower motivation levels (M = 3.7). The process-based group evaluated their teaching experience more favorably (M = 4.5), emphasizing the significance of peer review, feedback, and iterative writing. Conversely, the product-based group assigned a diminished effectiveness score (M = 3.8), attributing this to restricted opportunities for reflection and revision. The quantitative results demonstrate that students instructed via the process-based method had greater emotional and cognitive involvement in writing. The method enhanced their abilities and cultivated a more significant learning experience. The findings indicate that student-centered, feedback-oriented education can markedly improve learners' motivation and pleasure in academic writing environments.

Table 5. Students' Perceptions of Instructional Approaches

Aspect	Process-Based Group (Mean Score)	Product-Based Group (Mean Score)
Engagement	4.4	3.6
Motivation	4.3	3.7
Perceived Effectiveness	4.5	3.8

Table 5 shows how students rate their learning experience on engagement, motivation, and efficacy. The process-based group scored higher in all areas, with perceived effectiveness (4.5) scoring highest, followed by engagement (4.4) and motivation (4.3). The product-based group scored lower in all areas, with perceived efficacy scoring the lowest (3.8). Results indicate that students considered the process-based approach more participatory, meaningful, and supportive of academic writing development. According to the statistics, instructional design influences student attitudes and satisfaction.

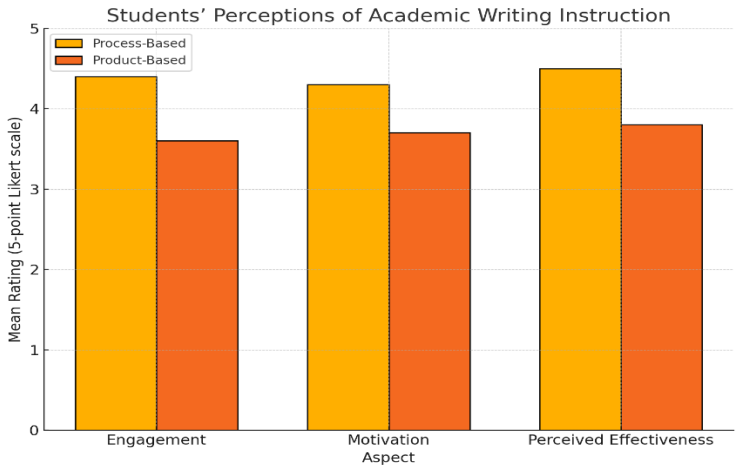

Figure 5. Students' Perceptions of Academic Writing Instruction

Figure 5 shows how process-based and product-based students rate involvement, motivation, and effectiveness. The graphic shows that process-based students were more engaged in learning. The largest perceived effectiveness gap indicates that students appreciated process approach feedback and adjustment. These visual insights support the claim that learner-centered, iterative writing teaching increases writing abilities and students' emotional and cognitive engagement, which are crucial for academic success in writing-intensive fields.

3.5 Students' Voices (Qualitative)

Semi-structured interviews yielded qualitative data that offered profound insights into students' experiences with various educational methods. Thematic analysis identified numerous principal themes, including perceived advantages, obstacles, instructional inclinations, and the significance of feedback. Students in the process-oriented group frequently emphasized the advantages of peer review, iterative drafting, and instructor feedback. The iterative process facilitated their comprehension of errors, enhanced organization, and fostered confidence in articulating ideas. A student stated, "I was unaware of the extent of my writing improvement until I revised it multiple times with feedback." Nonetheless, several also cited time restrictions and the pressure of continuous changes as obstacles.

Conversely, students in the product-based group valued the clarity of example texts and direct instruction but voiced dissatisfaction over the restricted options for revision and application of feedback. A few of students favored the framework yet had diminished engagement in the learning process. Upon inquiry regarding their favorite methodology, most students preferred the process-based approach, highlighting its collaborative and developmental characteristics. The findings indicate that although both strategies are beneficial, students derive greater advantages from training that fosters active engagement, reflection, and continuous development. Feedback emerged as a pivotal element influencing student motivation and perceived advancement in academic writing.

Table 6. Themes from Student Interview Responses

Theme	Process-Based Group (Mentions)	Product-Based Group (Mentions)
Benefit: Improved Writing through Feedback	15	5
Benefit: Increased Confidence	12	6
Challenge: Time Management	8	4
Challenge: Limited Revision Opportunities	2	10
Preference: Collaborative Learning	14	5
Preference: Structured Guidance	4	13

Table 6 shows the frequency of student replies to qualitative interview themes. Process-based students most often stated feedback and writing confidence. They also favored collaborative learning. Product-based students praised systematic guidance but lamented limited revision time. The table shows that the process-based group preferred introspective, peer-supported learning, whereas the product-based group preferred teacher-led education. These findings illuminate students' learning styles and obstacles.

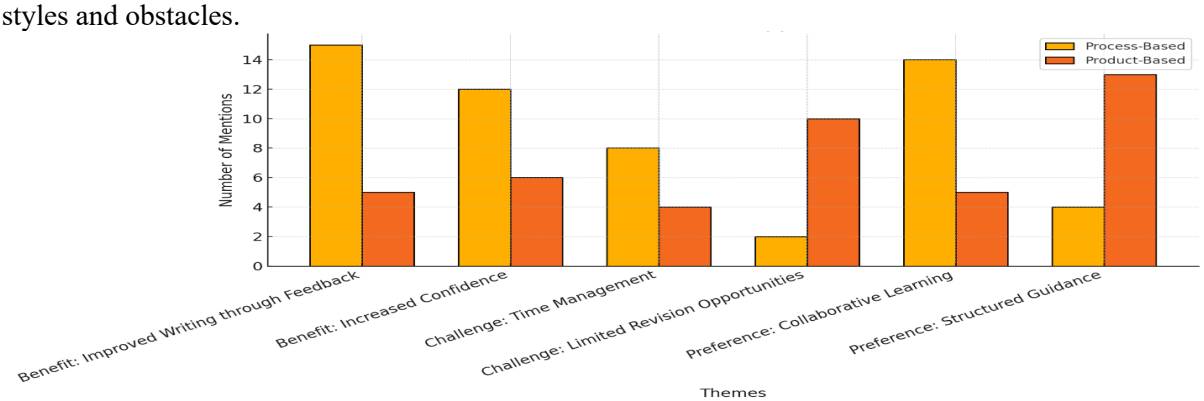

Figure 6. Student Reflections on Instructional Approaches (Qualitative Themes)

Figure 6 shows how often students in both instructional groups mentioned qualitative themes. The chart shows process-based students cited feedback, confidence, and collaboration benefits. Product-based students discussed challenges more, especially the lack of revision opportunities. Product-based groups preferred structured guidance more. This visualization highlights the process-based approach's ability to empower students and deepen engagement while acknowledging the product-based model's clarity and structure. The chart shows how instructional design affects student perception and classroom experience.

Discussion

4.1 Interpretation of Quantitative Results

The quantitative findings of this study indicated that both instructional methods—process-oriented and product-oriented—resulted in enhancements in students' academic writing. Nonetheless, the process-oriented group had markedly superior improvements in overall writing ability, along with enhancements in specific elements such as coherence, vocabulary, and organization. This conclusion indicates that the process-oriented approach, which prioritizes recursive writing, feedback, and learner reflection, is more effective in fostering holistic writing growth. The post-test data, corroborated by statistical analysis, indicated that learners in the process-based group exhibited greater improvement and generated more cohesive and structurally robust academic texts.

This result corresponds with the theoretical framework of process writing theory, which perceives writing as a dynamic process enhanced by iterative drafting and active editing. This also reflects the tenets of Swain's Output Hypothesis, which posits that language production—especially via meaningful revision and interaction—facilitates enhanced learning and increased linguistic awareness (Parraga et al., 2025; Taye, 2023; Weld et al., 2021). Conversely, the product-oriented strategy, which emphasizes modeling and precision in final versions, provided restricted possibilities for correction and engagement, thereby accounting for the diminished learning gains noted.

The results align with prior research that supports the educational significance of the process method in promoting student-centered learning and critical thinking in writing (Bhuttah et al., 2024; Le & Nguyen, 2024; Ortega-Alvarez et al., 2025). Furthermore, the Indonesian environment, in which English is taught as a foreign language, benefits from instructional methods that facilitate the gradual development of writing as a talent (Aswad et al., 2022; Intiana et al., 2023; Yulianeta et al., 2022; Yundayani & Sri Ardiasih, 2021). The study's findings underscore the need for writing training to transcend simple imitation of academic formats and adopt methodologies that foster critical engagement, self-regulation, and dynamic language production. Consequently, incorporating process-oriented tactics may provide a more sustainable approach to enhancing academic writing skills in EFL learners.

4.2 Effectiveness of Process-Based vs. Product-Based Approaches

The study's findings reveal that although both instructional methods favorably influenced students' academic writing growth, the process-based approach exhibited superior overall effectiveness. This phenomenon can be ascribed to its cyclical structure, enabling students to participate in many stages of writing—planning, drafting, revising, and editing—facilitated by ongoing feedback and peer interaction (Fan et al., 2025; Guo et al., 2021; Suraworachet et al., 2023; Teng, 2024; L. (Francoise) Yang et al., 2023). The process-based model's primary strength is its capacity to promote critical thinking, reflection, and learner autonomy. Students actively participated in the development of their own texts, resulting in enhanced coherence, vocabulary utilization, and organizational clarity in their writing (M. Chen, 2024; Z. Chen, 2024; Morris, 2025; Vellanki et al., 2024). Nonetheless, the process-oriented approach posed difficulties, especially with time management and the cognitive requirements of revising numerous drafts. Several students indicated experiencing a sense of being overwhelmed by the repetitive task, particularly within a constrained semester timeframe.

Conversely, the product-oriented strategy possessed distinct advantages. It provided students with explicit exemplars of academic writing, emphasized grammatical precision, and fostered comprehension of structural conventions (Benson et al., 2021; Feng, n.d.; Khaki & Heidari Tabrizi, 2021; Teng, 2025). These aspects were particularly advantageous for learners with lower competency levels requiring assistance in generating appropriate academic texts. The organized framework of the product approach benefited students who favored instructor-led teaching and clear expectations.

Nonetheless, its deficiencies encompassed insufficient possibilities for modification, little interaction with feedback, and a predominantly passive learning experience. Students frequently prioritized the creation of a final result over comprehending the writing process itself. As a result, enhancements were constrained and superficial.

Instructional design significantly influenced learning outcomes. The process-based model's focus on student-centeredness, collaboration, and reflection seemed to foster deeper, more transferable writing skills, whereas the product-based model prioritized short-term accuracy and structure (Albay & Eisma, 2025; Ghaleb, 2024; Luo & Xie, 2023). These discoveries indicate that a balanced amalgamation of both methodologies may yield best outcomes in EFL environments.

4.3 Students' Perceptions and Engagement

The examination of student perspectives uncovered significant insights regarding their motivation, engagement, and self-efficacy during the writing instruction process. Students in the process-oriented group indicated elevated engagement levels, crediting their motivation to the chance for feedback, draft revision, and greater freedom of expression. This sense of active engagement seemed to enhance their confidence in writing, as many perceived that the incremental evolution of their texts provided them with a greater comprehension of academic standards. Their improved self-efficacy was evident in remarks emphasizing ownership of their learning and contentment with their advancement. These impressions closely correlate with the group's exceptional performance outcomes, indicating that the process-oriented approach enhanced technical writing skills while simultaneously cultivating greater emotional and cognitive engagement.

Conversely, students in the product-based group reported more passive learning experiences. While some valued the clarity offered by model texts and clear instruction, many perceived a diminished sense of agency in their learning. The absence of opportunities for revision and reflection diminished their sense of engagement, possibly resulting in fewer performance improvements. Notably, although several students favored organized direction, they simultaneously articulated a preference for increased engagement and feedback—components more prevalent in the process-based paradigm.

The correlation between perception data and performance outcomes reinforces the argument for the process-based approach as a superior way for fostering enduring academic writing development. The students' favorable dispositions and drive undoubtedly enhanced their performance, underscoring the significance of emotionally engaging teaching methods. These studies highlight the relationship among teaching methods, learner perceptions, and academic accomplishment. A paradigm that promotes reflection, peer engagement, and iterative learning seems to enhance both academic performance and learner satisfaction, rendering it particularly beneficial in EFL and student-centered educational environments.

4.4 Pedagogical Implications

This study's findings provide significant pedagogical implications for enhancing academic writing teaching in Indonesian EFL contexts (Afifi, 2021; Fitriyah et al., n.d.; Hilmi & Rozimela, 2025). The exceptional performance and favorable perceptions of students in the process-based group underscore the significance of integrating recursive writing practices, peer feedback, and reflective learning into classroom instruction (Gong & Pang, 2025; Hung et al., 2024; Mustika et al., 2025; Tarchi et al., 2024). These tactics not only improve students' writing abilities but also cultivate motivation, critical thinking, and learner autonomy—essential competencies in higher education. Considering that numerous Indonesian students encounter difficulties with academic writing in English, implementing a process-oriented education may offer a viable avenue for enduring enhancement.

Nonetheless, the product-based approach exhibited advantages, particularly in offering explicit models and structural direction. Consequently, instead of perceiving these methodologies as incompatible, it is advisable for educators to implement a hybrid model that combines the systematic precision of the product approach with the comprehensive richness of the process approach (Alamri et al., 2021; Anthony et al., 2022; Megahed & Hassan, 2022; Mielikäinen, 2022). Instruction may commence with model analysis and explicit instruction in grammar and structure (product-based), then progressing through phases of drafting, feedback, and modification (process-based).

To successfully execute this integrated strategy, modifications to curriculum design and educator training are necessary. Academic writing syllabi must clearly delineate the steps of process writing, incorporate feedback sessions, and provide opportunities for rewriting (Boice et al., 2021; Halverson et al., 2023; Ruiz-Rojas et al., 2023; Singh et al., 2022; W. Yang, 2022). Moreover, teacher professional development programs must provide educators with the pedagogical and evaluative competencies essential for administering process-oriented instruction, encompassing training in delivering constructive feedback, organizing peer assessments, and crafting supportive writing assignments. Technology can be incorporated to facilitate these stages via digital feedback mechanisms and collaboration platforms.

In conclusion, the study emphasizes the necessity for context-sensitive writing education that harmonizes structure with originality and correctness with expression. An insightful integration of process and product components provides the most effective framework for enhancing students' academic writing skills in Indonesian EFL contexts.

4.5 Limitations of the Study

This study offers significant insights into the comparative efficacy of process-based versus product-based methodologies in academic writing instruction; however, numerous limitations should be recognized. The limited sample size ($n = 40$) and the utilization of intact class groups restrict the generalizability of the findings to the specific environment of a single Indonesian university. The intervention's duration of merely eight weeks may have been inadequate to witness long-term writing improvement or skill retention. Moreover, despite attempts to maintain uniformity and equity, the interpretation of qualitative data is intrinsically subjective. Although theme analysis and validation methods like member-checking were utilized, the possibility of researcher bias in the interpretation of interview replies cannot be completely eliminated. Subsequent study with a bigger and more heterogeneous sample, spanning several semesters and integrating triangulated data sources, would enhance the findings and provide more substantial implications for writing teaching.

Conclusion

This research evaluated the efficacy of process-oriented versus product-oriented methodologies in instructing academic writing to Indonesian EFL students in a public university setting. This study utilized a mixed-methods quasi-experimental design to assess both the quantifiable improvements in writing quality and the students' motivation, engagement, and impressions of each instructional model. Quantitative findings indicated that both methodologies substantially enhanced students' academic writing skill; still, the process-oriented group exhibited superior progress, evidenced by a mean increase of 10.2 points, in contrast to 5.5 points in the product-oriented group ($t(38) = 3.17$, $p < 0.01$). Qualitative findings corroborated that process-oriented education fostered elevated levels of enthusiasm, reflection, and confidence, whereas the product-based group largely gained from structural clarity and grammatical accuracy.

These findings validate the educational significance of recursive writing tasks, iterative feedback, and peer cooperation as essential components of effective writing instruction in EFL higher education. The findings demonstrate that students' emotional engagement and autonomy significantly influence the conversion of instructional tactics into measurable learning results. Consequently, effective academic writing pedagogy in Indonesia must transcend a sole focus on textual accuracy and incorporate reflective and interactive learning elements that promote continuous growth.

Subsequent research ought to expand upon these empirical findings by examining particular methodological variables identified as significant in this study. The duration of the intervention was crucial; prolonging the process-based education beyond eight weeks may facilitate more enduring improvements and long-term retention. The feedback mechanism, especially the equilibrium between instructor and peer feedback, demonstrated significant effects on student involvement and writing quality. Future research could systematically alter input frequency or kind to determine optimal feedback patterns for EFL learners. Third, the affective variables found, including motivation and writing self-efficacy, necessitate longitudinal investigation employing mixed-methods approaches to elucidate their developmental trajectories. Moreover, subsequent research might utilize larger and more heterogeneous samples across various institutions to improve external validity and investigate the interplay between institutional culture and teacher experience with instructional approaches.

A possible approach is the investigation of hybrid instructional frameworks that combine the methodical structure of product-based teaching with the reflective and collaborative cycles of process-oriented education. Digital technology, such automated writing evaluation tools and AI-driven feedback systems, could be used to enhance the recursive feedback process beyond the confines of the classroom. By anchoring future studies in the empirical patterns identified herein, researchers can aid in the formulation of more adaptive, data-driven models of academic writing training that reflect the contextual realities of Indonesian higher education.

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