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English Academic Writing Quality: A Case Study of Learning Scientific Writing Skills for Nusa Cendana University Students, Indonesia

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Abstract

This paper discusses several things related to the quality of students' writing, namely: (1) the cohesive devices commonly used in the writing development of English Education Program students in the 2022/2023 academic year, (2) the frequency of cohesive devices used in students' writing, and (3) the relationship between the number and types of cohesive devices and the quality of their writing. One hundred and eight students in the English Education program contributed thirty academic essays as sample texts for this study. Halliday & Hasan's (1976) taxonomy of cohesion was used as a framework for analyzing cohesive devices, while the writing assessment rubric developed by Hogue & Oshima (2007) was used to determine the quality of students' writing. Analytical descriptive research methods were used to find answers to the research questions. The application of one-way ANOVA revealed significant differences in the number of cohesive devices used in students' writing. The results of this study can be a reference for designing more effective writing learning methods to improve the quality of students' writing as future English teachers who will become a bridge of information for the community.

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1. Introduction

In a broader perspective, writing requires complex cognitive activities involving problem-solving and applying strategies to achieve communicative goals (Rao, 2007). This is in line with Tans' (2007) view in his writing, which implicitly states that there is a process of a person's cognitive development in producing a written text. And through the results of his writing, a person can identify his cognitive development. For example, writing requires students to focus and organize their ideas and develops their ability to synthesize, analyze, and critique.

Writing also reinforces learning, thinking, and reflecting about language as a way of communicating. Therefore, writing skills in extended texts at the advanced level not only engage language systems. They also pose significant challenges to cognitive systems such as memory and reasoning (Kellogg, 2008).

Learning how to compose extended texts in an effective way should be understood as a task that is similar to the acquisition of expertise in related domains that are culturally acquired. Learning to write is not simply an extension of acquired spoken language. It is more akin to learning to play a musical instrument, which requires a dual competence of mechanical skill and creative production. To achieve proficiency in writing, writers must be able to anticipate the various ways in which readers may interpret the text and take this into account when revising.

Students often find composing, especially in a language other than their first language, such as composing in English, difficult because the process requires the use of many cognitive and linguistic strategies. That is, the writing of an effective extended text requires both the student's mastery of the target language and the student's reflection on the process of text creation. One of the characteristics of good academic writing is that the text "makes sense". The use of cohesive devices that make the text logically and semantically consistent as a whole contributes to this characteristic. One measure of effective writing is therefore textual coherence.

Based on teaching and research experience in the field of teaching English to non-native speakers, particularly in writing skills, it has been found that a person's proficiency in writing is highly interconnected with their cognitive development and can significantly affect their academic success within their respective field of study.

2. Literature Review

2.1. Writing Learning Approach

The primary theory analyzed in this study focuses on the teaching and learning of writing techniques in foreign languages, especially English in the Indonesian context. In the past 30 years, three approaches to teaching writing have emerged to replace the traditional view that writing skills only serve to enhance other language skills such as reading, speaking, and listening. These approaches include the process approach, the genre approach, and the contextual approach.

The process approach views writing skills as a personalized practice and individualized process. Thus, according to this approach, writers, including students, have sole authority over the four primary stages of the writing process. 1) Prior to writing, it is important to reflect and determine the type of writing, whether it is creative, such as stories, poetry, or drama, or non-creative, such as description, argument, exposition, or factual narration. Additionally, choosing a topic for the writing is essential. 2) Writing should be conducted in a way that suits the writer's individual habits. 3) Rewriting should be carried out. 4) Post-writing activities should be carried out, such as publication (Graves, 1983).

In all four activities, the role of the writing teacher is minimal, with the teacher offering opinions or improving students' writing only when specifically requested by students during the writing process, with a focus on empowering students to take ownership of their writing and develop their skills independently. The process approach, however, allows teachers to enhance students' writing skills through activities such as one-on-one conferences or whole-class conferences in which writing is evaluated and writing-related questions are addressed. As demonstrated in Activity Four, any piece of writing produced by a student must be published regardless of how it was constructed or what it contains. In other words, student writing is no longer evaluated solely by teachers, as it may also be published on various platforms, including classroom walls and magazines.

The second approach to writing instruction is the genre approach (Kress, 1994). Here, the teacher takes a directive role in determining the specific type of writing that his or her writing students are expected to produce. To accomplish this, the writing teacher provides examples of a particular model or genre of writing, introduces its characteristics, and offers examples before the students begin writing by following that structure. This means that students do not have complete autonomy in their writing, but must adhere to the prescribed genre presented by the teacher.

Additionally, to enhance their writing abilities with this approach, students typically participate in genre-specific field trips. For example, they might visit a tofu factory to see the process for themselves if they are asked to write about making tofu. Upon returning to school, they then write about the process. It is expected of teachers to be proactive in improving students' writing, even if not explicitly asked to do so.

The contextual approach, as suggested by Tans (1993), requires teachers to understand students' psychology. Based on the principles of the genre approach, children who need teacher guidance in pre-writing activities, writing, revising and publishing should be supported. Meanwhile, pupils who are more independent in their writing, i.e. in determining the type of writing and in developing their writing to the point of publication, need to be taught in the context of the process approach.

Both process and genre/context approaches have this in common: they view the four writing processes, writing, revising, and postwriting as a whole, in addition to their differences. The pre-writing activities should culminate in publication, which is the final stage of each student's writing endeavor. Individual and group conferences about students' writing occur throughout this sequence of activities. That is what distinguishes it from traditional approaches to writing education, which view writing solely as a means to support other skills or language, rather than to improve students' writing abilities or to prepare them for publishing.

Within the context of the three major theories of writing instruction, it is important to examine how teachers and instructors at all levels of education implement writing instruction in their respective institutions. It is crucial to provide an appropriate model for writing teachers through the documentation of research findings so that educators, not only in the field of writing but also in different languages, can improve their students' writing skills and help them become more competent and meticulous writers.

2.2. Definition of Cohesion

Mulyana, (2005: 26) states that cohesion is the relationship between parts in the text that is characterized by the use of language elements. The concept of cohesion basically refers to the relationship of form, which means that the elements of discourse (words or sentences) used to compose a discourse have a solid and intact relationship.

Another definition, cohesion and coherence are the main requirements of literacy or textuality, both are concepts of cohesion. The definition of cohesion is unity of form, while coherence is unity of

meaning. A cohesive text or discourse means that each element is internally integrated within the textual unit. Strictly speaking, each component of the text, such as the actual word heard or read, is connected in a series. The constituent elements must be interdependent. Thus, the presence of one is consistent with the presence of the other in both form and distribution.

2.3 Definition of Coherence

Coherence is defined as a pattern of connection between one part and another so that the sentence has a complete unity of meaning (Mulyana, 2005: 30). In other words, coherence means the connection between one sentence and another. Coherence also means a harmonious mutual relationship between the elements in the sentence. The coherence relationship is the connection between one part and another so that the sentence has a complete unity of meaning. Coherent discourse is characterized by: its structure is orderly and its mandate is neatly interwoven, making it easy to interpret (Mulyana, 2005: 30).

Some of the steps taken to collect data are as follows. Firstly, the research team explained the learning objectives in advance and consented to the use of their writing as a data source in the study. Only those who agreed to allow their writing to be used were included in the writing sample. Secondly, students were allotted three hours to write their responses to the given prompt. No sources of help were permitted during the writing process. Therefore, all responses were solely from the students without any external assistance.

Upon completion of the writing assignment, the researcher collected the students' compositions and typed them in .doc format exactly as written. There were no error corrections. All script files were converted into text format and graded by the researcher.

The holistic writing rubric developed by Hogue & Oshima (2007) was used to assess the quality of the student's writing, with the maximum score for writing being 100. Six papers were randomly selected to test inter-rater reliability to ensure consistency. After scoring all of the writing, the researcher manually annotated the cohesive devices used throughout the texts.

The data collected is analyzed using a variety of statistical methods. The researcher manually sorted the cohesive devices as categorized by Halliday and Hasan. The AntCon program was used to validate the reliability of the frequency of cohesive devices in the corpus. Frequency, percentage, mean, and F-test were utilized for identifying and comparing the frequency and type of cohesive devices present within the corpus. Pearson's correlation coefficient was used to assess the relationship between the frequency of cohesive devices and the quality of the writing as rated by the writing experts.

4. Finding and Discussion

4.1 Results of the Research

The students completed their writing in three hours. The writing prompt was about teaching English as a second/foreign language. The students had to write answers to impromptu questions. During the writing process, no resources of any kind were allowed. Thus, all responses were the students' own, with no help from outside sources. Table 1 describes the demographics of the corpus.

Table 1: Demograp hics of the Corpus

Number of texts	30
Word counts	16,756
Average word counts	551.87

Word count range	242 – 2,020
Word count *SD*	189.28
Maximum score	90
Minimum score	60
Average score	75.60
Score *SD*	10.55

Table 1 displays the considerable variation in length amongst the texts provided. The lengthiest response contains 2,030 words, whereas the shortest has 258 words. This suggests that the students responded to the prompt differently under the three-hour time limit. It is noteworthy that those who wrote the most produced nearly ten times more text than those who wrote the least. The highest achievable score in this task was 90, with the lowest being 60. The mean score was 75.60, with a standard deviation of 10.55.

The study used an adapted version of Halliday & Hasan's cohesive categories - ellipsis, reference, collocation, repetition, and conjunction - to identify typical cohesive devices used in the English writing of English Education Study program of Undana undergraduate students. Table 3 shows the types of cohesive devices used by the student writers.

Table 2: Cohesive devices used in text samples.

Features	*F*	*%*	*SD*
Ellipsis	62	2.25	1.38
Reference	646	23.49	12.34
Collocation	0	0	0
Reiteration	1,769	64.30	32.56
Conjunction	274	9.96	4.91
Total	2,751	100.00	

Table 2 indicates that among the 30 quotations composed by students, repetition is the most commonly utilized cohesive type in the corpus (f= 1,769, or 64.30%), with reference following closely behind (f = 646, or 23.49%), and conjunction (f = 2.74, or 9.96%). The mean Comparison between Cohesive Devices employed in academic writing can be seen in Table 3.

Table 3: The mean Comparison between Cohesive Devices employed in academic writing

	SS	df	MS	F
Between Groups	58630.89	3	19543.63	63.130***
Within Groups	35911.10	116	309.58	
Total	94541.99	119		
		***p< .001		

To examine the differences in the types of cohesive devices used in the corpus, a one-way ANOVA was performed. There was a statistically significant difference between the types of cohesive devices as determined by one-way ANOVA [F(3.119, p = 0.000)]. LSD post hoc tests revealed that repetition was used more frequently as a cohesive device (M = 64.30, SD = 32.56) than the use of reference (M = 23.49, SD = 12.34), the use of conjunction (M = 9.96, SD = 4.91), and the use of ellipsis (M = 2.25, SD = 1.38). This was significant at ps <.001. Additionally, reference was used more than conjunction (p<0.01) and ellipsis (p<0.001).

Table 4: Relationship between Frequency of Cohesive Devices, Word Count, and Writing Quality

	1	2	3	4	5	6	7

1. Score	-	.633**	.422*	.258	.139	.511**	.332
2. Word count	.633**	-	.867**	.563**	.215	.735**	.799**
3. Cohesive Devices	.422*	.867**	-	.544**	.366*	.771	.962**
4. Conjunction	.258	.563**	.544**	-	.124	.435*	.414*
5. Ellipsis	.139	.215	.366*	.124	-	.202	.357
6. Reference	.511**	.723**	.771**	.435*	.202	-	.589**
7. Reiteration	.332	.799**	.962**	.414*	.357	.589**	-

*p<.05; **p<.01

To investigate the correlation between various factors and writing quality, we conducted Pearson's correlation coefficient. Our results indicated that there was a positive relationship between the number of words used in the writing and the writing score ($r = 0.633$, $p<.01$), the number of cohesive devices utilized and the writing score ($r = 0.422$, $p<.05$), as well as the number of references and the writing score ($r = 0.511$, $p<.01$).

In analyzing the relationship between word count and use of cohesive devices, a positive correlation was observed ($r = 0.867$, $p<.01$). Specifically, longer texts showed increased use of conjunctions ($r = 0.563$, $p<.01$), references ($r = 0.771$, $p<.01$), and repetitions ($r = 0.799$, $p<.01$).

4.2 Discussion

Based on the research questions given earlier, this section discusses the findings of this research. The results of the study showed that Undana English students often use repetition, reference, and conjunction as cohesive devices in their writing.

Considering that the simplest writing tool available to the students is synonyms or repetition, it is expected that repetition is the most common cohesive device used by them. Less competent writers often use this approach to persuade readers that they have a good grasp of the topic. As a result, the text still develops effectively and remains focused on the core idea. This supports Palmer's (1999) research which found that non-native English speakers produce coherent texts by utilizing lexical repetition.

Palmer recommends that English teachers emphasize coherence and cohesion in the classroom, particularly by using reading. This approach can help students understand the effective use of cohesive devices, which they can then apply to their writing. This approach can help students understand the effective use of cohesive devices, which they can then apply to their writing. Teachers should also provide multiple examples of cohesive devices to increase the quality and engagement of students' writing.

In addition, mental processing may explain why college students tend to use repetition in their writing. The fact that lexical items are easier to process may explain this. When it comes to writing production, college students often have access to a limited number of lexical items for productive tasks. For example, reading or listening to dialogues are typically considered less challenging than speaking or writing tasks.

When students create written works, they require readily available linguistic resources. Many students express difficulty in accessing these resources to improve their written work. As a result, teachers of productive skills such as writing and speaking need to provide as many linguistic resources as possible for students to use. Implementing cohesive devices such as lexical and grammatical cohesion is one method to aid students in achieving clear and coherent written works. These linguistic tools are critical to improving the flow and clarity of students' writing.

For Indonesian EFL writers, the order in which cohesive devices are used indicates their level of difficulty and acquisition. The findings show a frequent use of repetition, followed by reference and

conjunction. This propensity for repetition may stem from the desire for clarity. To convey their intended meaning, foreign language learners often rely on linguistic devices. Undana English students may struggle to find alternative vocabulary to express their topic. Consequently, the use of cohesive devices in writing is influenced by the writer's level of proficiency.

Conjunctions, particularly and but, are frequently employed by Undana English writers, as they are the third most common cohesive device. These transparent devices are popular for revealing coherence in writing. The limited number of linguistic devices available to foreign language writers makes conjunctions a widespread choice to provide coherence in their written work.

Numerous studies on foreign language writing have shown that conjunctions are overused by students whose first language isn't the language they are writing in because conjunctions are seen as an immature way of writing subordinate clauses. Additionally, conjunctions are prevalent in the early stages of English language acquisition in children. Chanyoo's (2013) study supports this assertion by showing that both native and second-language writers prefer to use conjunctions to combine their texts, thereby making the text more coherent. Students prefer to use conjunctions because they give meaning to their literal.

The lexical forms of conjunctions suggest the meaning. Thus, students do not have to process or investigate the emotional meaning of the conjunction (called connotation). In other words, conjunctions are more transparent in their meaning, e.g. "and" versus "however", compared to other cohesive devices. In addition, learners find it easier to use conjunctions because they provide cohesion between both lexical and grammatical elements. There is no need to distinguish between the word and sentence levels. Conjunctions also serve as additive rather than relational tools.

The current study indicates that student writers of the English Undana program tend to use reiteration and reference, followed by conjunctions. Repetition serves as an interclausal semantic device, linking different aspects of the same concept or repeating a previously expressed meaning. In contrast, reference and conjunction function as interclausal syntactic devices by referencing an idea introduced in a previous sentence or clause. The current findings indicate that Undana English majors demonstrate developmental progress as they move from using cohesive devices at the interclausal semantic level (e.g., repetition) to interclausal syntax (e.g., reference and conjunction). Therefore, it can be inferred that these students are at a developmental stage. If more cohesive devices are available to the instructor, the student's writing will become more engaging as it becomes less repetitive and more varied.

These actions differ from those of native-speaker writers. Native speakers tend to use more syntactic ties, such as references and conjunctions, in their written texts. Therefore, it can be argued that native speakers of English typically use interclausal syntactic cohesive devices when producing written products. Palmer's (1999) study examined the cohesive devices most frequently used by non-native English students. The study showed that the students primarily relied on lexical repetition. The findings suggest that teaching coherence and cohesion in English classrooms, incorporating all relevant theoretical approaches would improve learners' writing skills.

Furthermore, the study raises the question of whether there is a relationship between the numberof cohesive devices used in academic writing and the quality of the written work. The study assessed the quality of students' writing via scores from holistic rubric evaluations by writing experts. Results indicated that higher writing scores were associated with longer texts utilizing cohesive devices.

The study demonstrated a significant correlation between the employment of cohesive devices and writing quality. However, it is important to note that cohesive devices alone may not serve as a reliable indicator of writing quality. Further research on the factors affecting writing quality should be approached with care.

However, the use of references was the only cohesive device used in writing that correlated with higher scores. Based on these results, it appears that in academic writing, students should rely primarily on references to connect previously discussed ideas at both the clause and sentence level. References were found to be an important component of high-quality writing, accounting for the highest frequency of grammatical cohesive devices at 90 %, according to Alarcon and Morales (2011). They also found that writers with lower levels of proficiency tended to rely more heavily on ellipses, conjunctions, and lexical cohesive devices.

These findings suggest that writers in the English Undana program tend to tend to rely on lexical repetition, conjunctions, and references for coherence in their texts. However, the use of these devices does not necessarily indicate high-quality writing, as only a few pieces were deemed competent. Highlighting the importance of cohesion, the quality of writing also seems to be influenced by the length of the text. As students write longer, they are likely to incorporate more cohesive elements into what they write, ultimately improving the quality of the writing they produce.

However, to attain superior writing scores, students cannot solely depend on the number of cohesive devices but must also attend to sound cohesion at the lexical and clausal levels. While repetition and reference can help readers navigate between nouns and processes in the text, signposts or cohesive devices are necessary to create logical connections between different clauses and paragraphs.

5. Conclusion

The previous chapter discussed the importance of cohesion and coherence in writing a good text. This study focuses on exploring cohesive devices used by students in the Undana English study program, specifically looking at the frequency of these devices in their writing and whether they relate to the quality of the text. The researchers manually calculated the frequency of cohesive devices and used statistical methods such as frequency, percentage, and one-way ANOVA to identify different cohesive devices in the students' texts. Pearson's product moment correlation was employed to determine the relationship between the number and type of cohesive devices used and the overall quality of the texts. The findings showed that student writers tended to use repetition, reference, conjunction, and ellipsis as their preferred cohesive devices. Repetition was found to be the most dominant type of cohesive device. Additionally, a positive correlation was observed between the number of words, certain types of cohesive devices used in academic texts, and text quality.

This study suggests that writing instructors should provide students with various cohesive devices that can improve their writing production. In addition, instructors can recommend that they study how native speakers or competent writers develop their writing while staying focused on the central idea by using various cohesive devices. Through the writing model and a series of exercises, student writers can eventually produce more effective productions by understanding cohesive devices to make their texts coherent and comprehensible.

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Bibliography

Alarcon, B. J. & Morales, K. N. S. (2011). Grammatical cohesion in students' argumentative essay. Journal of English and Literature, 2(5), 114-127.

Bogdan, R. C. & Biklen, S. K. Qualitative Research for Education: An Introduction to Theories and Methods. Boston: Pearson Education.

Borg, W.R. & Gall, M.D. 1989. Educational Research: An Introduction. New York: Longman.

Chanyoo, N. (2013). A corpus-based study of connectors and thematic progression in the academic writing of Thai EFL students. Doctoral Dissertation. University of Pittsburgh, USA.

Clark, I.L. 2008. Concepts in Composition: Theory and Practice in the Teaching of Writing. New Jersey: Taylor and Francis.

Crossley, S. A., Kyle, K., & McNamara, D. S. (2016). The development and use of cohesive devices in L2 writing and their relations to judgments of essay quality. Journal of Second Language Writing, 32, 1-16.

Cummnis, J. 1979. "Linguistic Interdependence and the Educational Development of Bilingual Children." Review off Educational Research, 49(2), hlm. 222-251.

Tans, F. 2007. "Writing in EFL: An Analysis of Developing Cognitive Processes." Jurnal Ilmu Pendidikan, Jilid 14(3), Oktober, hlm. 166-174.

Tans, F. 2010. "Teaching and Learning to Write: A Case Study of a Primary School in the City of New York." Dalam A. Bandur, M. Erb, S. Hastjarjo, K.A. Sugeng, dan L.P. Artini (Ed.), Proceedings of the First Multidisciplinary International Conference on Education and Culture di STKP St. Paulus, Ruteng, Flores, NTT, hlm. 27-44.

Tans, F. 2012. Model Pembelajaran Menulis dalam Bahasa Inggris di SMA di Kota Kupang, NTT. Laporan Hasil Penelitian yang Tidak Dipublikasikan. FKIP, Undana, Kupang.

Field, Y. & Oi, Y. L. M. (1992). A comparison of internal conjunctive cohesion in the English essay writing of Cantonese speakers and native speakers of English. RELC Journal, 23, 15-28.

Halliday, M. A. K. & Hasan, R. (1976). Cohesion in English. New York, NY: Routledge.

Hogue, A., & Oshima, A. (2007). Introduction to academic writing (3rd ed.). White Plains: Pearson.

Kellogg, R. T. (2008). Training writing skills: A cognitive development perspective. Journal of Writing Research, 1(1), 1-26.

Mahlberg, M. (2006). Lexical cohesion: Corpus linguistic theory and its application in English language teaching. International Journal of Corpus Linguistics, 11(3), 363-383.

Palmer, J. (1999). Coherence and cohesion in the language classroom: the use of lexical reiteration and pronominalisation. RELC Journal, 30(6), 61-85.

Rao, Z. (2007). Training in brainstorming and developing writing skills. ELT Journal, 61(2), 100-106.
Thompson, G. (1996). Introducing functional grammar (2nd ed.). London: Hodder Education.

Yang, W. & Sun, Y. (2012). The use of cohesive devices in argumentative writing by Chinese EFL learners at different proficiency levels. Linguistics and Education, 23, 31-48.