

The Application of Collaboration System-Based Learning in Overcoming Syntactic Interference in the Abstracts of Teacher Professional Program Students

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Abstract

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This study aims to explore the application of collaborative learning techniques as a strategy to overcome syntactic interference of Indonesian into English in the abstract writing of Teacher Professional Program (PPG) students at FKIP UMSU. Collaborative learning is learning that encourages learners to interact with each other, cooperate, and work together. The approach used was descriptive qualitative research method, involving collaboration techniques between students in focus discussion groups to improve the syntactic structure of the abstract. The research data were taken from 25 student abstracts, before and after the collaborative learning intervention. The analysis showed that collaborative learning significantly reduced syntactic interference such as the absence of *to be*, the use of inverted phrase patterns, and passive sentence structure errors. In addition, it was found that this approach increased students' linguistic awareness of the fundamental differences between Indonesian and English syntax. This research makes a real contribution to the development of more effective English teaching techniques for professional teacher education, as well as offering practical strategies for improving the academic quality of students in higher education. The implications of this research open up opportunities to expand the application of collaborative learning in other language teaching contexts.

Keywords:

Collaborative Learning; Syntactic Interference; Academic Abstract; Teacher Professional Program Students

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INTRODUCTION

Good English language skills are an essential requirement in the academic and professional world. However, learning English as a foreign language is not free from challenges, one of which is linguistic interference caused by the mother tongue. In the context of English learners in Indonesia, syntactic interference is a common problem, especially when Indonesian syntactic structures unconsciously influence English sentence construction. This error not only hinders effective communication but also affects academic quality, especially in writing abstracts for scientific publications. This is often seen in the absence of the element "to be," the use of inverted phrase patterns, and the construction of passive sentences that are not in accordance with English rules.

Collaborative learning techniques have become one of the effective solutions in improving students' writing skills (Zaki, Al-Qadri, & Akmalia, 2022). In line with (Wahyuni and Hasnah's 2017) research from Universitas Muhammadiyah Sumatera Utara, the Collaborative Writing model was proven to significantly affect students' writing ability.



This study shows that students involved in the collaborative learning process are able to produce better quality writing due to active interaction, discussion, and continuous feedback between fellow students and lecturers. This approach encourages creativity in writing and provides space for students to correct each other's mistakes in a constructive way.

In this study, the application of collaborative learning techniques is explored as a strategy to reduce syntactic interference of Indonesian into English in the abstract writing of Teacher Professional Program (PPG) students at FKIP UMSU. With a theoretical foundation from Wahyuni and Hasnah (2017), this research aims to prove the effectiveness of collaborative learning techniques in improving students' linguistic competence, as well as making a real contribution to the development of English teaching methods for teacher professional education.

These interferences not only hinder effective communication but also affect academic quality, particularly in writing abstracts for scientific publications. Teacher Professional Program (PPG) students at FKIP UMSU, who have the task of producing abstracts in English, often face this challenge. As future educators, their ability to compose abstracts in accordance with English rules is very important, both for academic needs and to increase global competitiveness.

Linguistic interference is a phenomenon that occurs when elements of the mother tongue influence the use of a second or foreign language (Firmansyah, 2021). According to (Weinreich, 1953), interference can occur in various aspects of language, including phonology, morphology, syntax and lexicon. In the context of English language learning in Indonesia, syntactic interference becomes one of the main challenges, especially in sentence construction which is often influenced by Indonesian structures. Previous research by (Setyawan, 2018) shows that the absence of *to be* and the use of inverted phrase patterns are the most common forms of interference.

Indonesian vs. English Syntax Indonesian syntax has fundamentally different characteristics compared to English. Indonesian tends to be flexible in word order, whereas English has stricter rules, such as the mandatory use of *to be* in certain sentences and specific passive structures. A study by Suryani (2020) revealed that this difference is often a source of error for English learners in Indonesia, especially in academic contexts such as abstract writing. Second or foreign language learners are often confronted with the phenomenon of interference, which is the mixing of elements from the first language (L1) into the language being learned (L2). One of the most common forms of interference is syntactic interference, which is an error in sentence structure due to the influence of mother tongue syntactic patterns. These errors can hinder learners' achievement of grammatical competence, especially in the context of foreign language learning such as English (Odlin, 1989; Ellis, 1997).

Some previous studies have highlighted the importance of learning strategies that are able to minimize this interference. Conventional methods such as structural and communicative approaches are often not effective enough because they are still teacher-centered and do not provide enough space for interaction between learners (Brown, 2007). On the other hand, collaborative learning has been shown to improve linguistic understanding through active interaction and collective problem solving (Slavin, 1995; Vygotsky, 1978). However, there are still few studies that specifically integrate collaborative systems in learning to address syntactic interference in a structured and systematic manner.

The gap in previous studies lies in the absence of a learning model that specifically utilizes the collaboration system as the main approach to address the problem of syntactic interference. Most studies still discuss collaboration in a general context, without directing their focus on syntactic aspects and the negative influence of the first language in the

learning process (Richards & Rodgers, 2001). Therefore, this study aims to implement and examine the effectiveness of collaboration-based learning in reducing syntactic interference in learners, especially in the context of learning English as a foreign language. Through this approach, it is expected that learners are not only able to recognize grammatically correct sentence structures, but also able to critically reflect on their syntactic errors in a collaborative learning environment (Weinrich, 1970). According to Johnson & Johnson (1994), this method is effective in improving linguistic skills as it allows learners to give each other feedback and correct mistakes collectively. In the context of English language teaching, collaborative learning has been proven to increase linguistic awareness and reduce syntactic interference, as shown by (Rahmawati's, 2021) research applying this method to education students.

Research Gaps Although many studies have addressed linguistic interference and collaborative learning separately, there are still few studies that integrate these two concepts in the specific context of academic abstract writing. This study aims to fill that gap by exploring the effectiveness of collaborative learning in overcoming syntactic interference in Teacher Professional Program (PPG) students. One approach that can help overcome this syntactic interference is the application of collaborative learning techniques. By involving group discussions and mutual feedback between students, this method aims to increase linguistic awareness and correct errors arising from the influence of the mother tongue. This study aims to explore the application of collaborative learning strategies in reducing syntactic interference in PPG FKIP UMSU students, so as to provide practical solutions in improving their English abstract writing skills.

METHODS

This research adopts a qualitative descriptive approach designed to provide an in-depth understanding of the forms of syntactic interference that appear in the writing of English abstracts by Teacher Professional Program (PPG) students at FKIP UMSU. The descriptive qualitative approach was chosen because it is able to describe linguistic phenomena in detail, allowing researchers to not only identify interference patterns, but also explore the factors behind them.

Moreover, this study utilizes a flexible design to evaluate the effectiveness of collaborative learning as a pedagogical solution to syntactic interference. By extracting data through document analysis and observation of the learning process, this study aims to offer new insights into more efficient teaching strategies. This design also allows for dynamic information gathering, so that the results of the study are not only descriptive but also able to make a practical contribution to the development of English teaching methods in teacher professional education.

This approach is considered relevant because it is able to capture the detailed nuances of syntactic interference that are often overlooked in quantitative approaches. Thus, the results of this study are expected to not only describe the forms of interference, but also provide a strong empirical foundation for developing collaboration-based learning strategies that can be applied in other language teaching contexts.

Research Participants The research subjects were 25 Teacher Professional Program (PPG) students at FKIP UMSU who actively participated in collaborative learning. The selection of participants was done purposively, with the criteria: Students had an assignment to write an abstract in English and Students faced previously identified syntactic interference problems. **Location and Time** The research was conducted at FKIP UMSU during one academic semester, with the duration of time covering the data collection and collaborative learning intervention stages.

Research Procedure This research was conducted in several stages: (a) Initial Analysis: Collected 25 student abstracts before the intervention to identify the most frequent types of syntactic interference; (b) Implementation of Collaborative Learning: Students were divided into focus groups where they worked together to improve the syntactic structure of the abstracts based on feedback from fellow group members and the supervisor; (c) Final Analysis: Collecting the abstracts after the intervention and analyzing the changes that occurred. After that, triangulation was carried out with the aim of strengthening the results of examining the data obtained.

Data Analysis Techniques The data were analyzed using a thematic approach to identify syntactic interference patterns and changes after the application of collaborative learning. The steps of data analysis include: (a) Categorizing the types of syntax errors; (b) Comparing data before and after intervention; (c) Concluding the effectiveness of collaborative learning based on the data obtained.

RESULTS & DISCUSSION

This study identifies various forms of linguistic interference experienced by FKIP UMSU Teacher Professional Program (PPG) students in writing English abstracts. The following are the main findings:

1. **Morphological Interference:** Identified in cases such as the mismatch of plurals and the use of affixes in English, for example:
 - a. Data (1): The subject of this research consisted of 30 students (18 boys, 12 girls).
 - b. Data (2): The variations may be caused by various factors among others: geographical, historical, and the transportation ones.

This error shows the inappropriate use of plural affixes in nouns, which is caused by the absence of morphological form changes in plural nouns in Indonesian.

2. **Syntactic Interference:** Some forms of syntactic interference found include:
 - a. Absence of to be: N-Hexane, ethyl acetate and ethanol extracts are capable of inhibition of xanthin oxidase enzyme, except water extract (Data 6), below:
“The aim of this investigation is to assess the in vitro xanthine oxidase inhibitory activity of ethanol extract and roselle calyx fraction (*Hibiscus sabdariffa* L).
Techniques: The xanthine oxidase enzyme catalyzes a reaction between hypoxanthine and xanthine, which results in uric acid. The quantity of uric acid reduced by this reaction is the basis for evaluating the inhibition of xanthine oxidase activity. Allopurinol is used as the reference medication in this investigation. The findings demonstrated that ethanol extract (100 µg/ml) can suppress xanthine oxidase enzyme activity by 25.13 percent, water fraction by 25.81%, and ethyl acetate fraction by 32.25%. Its IC50 values are 1294.37 for the extract, 830.71 for the water fraction, and 290.62 µg/ml for the ethyl acetate fraction. In conclusion, ethanol extract and Roselle calyx fractions exhibit xanthine oxidase inhibitory activity *N-Hexane, ethyl acetate and ethanol extracts capable to inhibition of xanthin oxidase enzyme, except water extract*, the extract's IC50 value is 1294.37, the water fraction's IC50 value is 830.71, and the ethyl acetate fraction's IC50 value is 290.62 µg/ml.”
 - b. Neatness of parallel structure (parallelism): ...we can perform an object more intreractively and realistically (Data 4), below:
“Speaking is a crucial part of learning a language, especially for EFL students who want to improve their academic abilities. This study is to describe the speaking

activities in the Fondi application and investigate how EFL college students perceive using the Fondi application to enhance their speaking abilities. An analytical inquiry method was used with a qualitative approach to accomplish the goals. The results showed that most EFL students believed it was helpful to use the Fondi program to improve their speaking skills. This is because of the application's unique design, which distinguishes it from other language learning platforms, and its interactive elements, which make practicing speaking easier. However, students sometimes have difficulties with social and technical problems when they practice speaking. Regarding Fondi students' speaking activities, the results showed that they used this application to practice their communication skills and improve their performance in an academic context ***we can perform an object more intractively and realistic***. The dominant type of speaking practice is responsive and interactive, according to the needs of each user. During practice, students also pay attention to the components of speaking, both macro and macro. Through interactions with other users, Fondi also contributes to the development of speaking abilities, albeit mastering all facets of speaking still presents difficulties”

- c. Error in possessive relationship: Study instrument used is outline of Teaching Programs, syllabi, handouts Handbooks... (Data 9), below:

“English learning materials in non-English study programs are organized according to the unique needs of the English language learners. This study intends to map the students' English language proficiency, identify the learning goals, and ascertain the type of ESP material required by students enrolled in UMSU's non-English Study Program by employing a qualitative approach and descriptive method. 80 (eighty) respondents (students) from non-English study programs who had already finished their general English course served as the study's data sources. Qualitative descriptive approaches were used to analyze the data in terms of percentages and numbers. The findings indicate that the needs of each student differ based on their specialized fields of study ***instrument used is outline of Teaching Programs, syllabi, handouts Handbooks***. Speaking and listening abilities cover those required of students in the relevant study program, and the average student's ability ranges from low to intermediate. Short-term goals pertaining to immediate demands, such as academic or educational requirements, and long-term goals pertaining to their post-educational workforce comprise their learning.”

This interference shows the influence of Indonesian structure, especially in the phrase structure pattern which is contrary to English.

3. Semantic Interference: Semantic errors are seen in data such as:
a. Data (10): Non verbal communication began since man can communicate by using letters or symbols recorded in many kinds of media.

The use of words with ambiguous and inappropriate meanings shows the difficulty in understanding the semantic context of English.

The results show that linguistic interference, whether morphologically, syntactically, or semantically, is caused by the fundamental differences between the mother tongue systems (Indonesian) and English. The following is a more in-depth analysis based on the findings:

1. Morphological Interference The difference in the formation of plurals is one of the main causes of interference. Indonesian does not recognize morphological inflection on nouns, such as the addition of the suffix "-s" or "-es" in English. Aronoff and Fudeman (2005) assert that the English morphological system requires a change in

noun form to indicate plural number, while Indonesian relies on word repetition (people, books).

2. Syntactic Interference

- a. **Absence of To Be:** The absence of to be in students' English sentences shows the direct influence of Indonesian structures, where auxiliary verbs are not needed to indicate predicates. In line with Chaer (2009), Indonesian uses time adverbs as indicators without changing the verb form.
 - b. **Possessive Relationships:** In English, possessive relationships use the X of Y pattern or an apostrophe, whereas Indonesian uses simple phrases without changing the form. Ignorance of this structure leads to errors, as in data (9).
3. **Semantic Interference** Semantic errors, such as in data (10), indicate a lack of understanding of the context in which English terms are used. Badudu (2001) mentions that the different ways of thinking between two languages often lead to ambiguous meanings in sentence construction.
 4. **Improvement through Collaborative Learning Techniques** Collaborative learning has proven to have a positive impact on reducing linguistic interference. Mutual feedback in groups allows students to understand errors and improve language structures collectively. Johnson & Johnson (1994) emphasize the importance of collaboration in the development of linguistic skills, especially in overcoming cross-linguistic challenges.

This research makes a significant contribution to understanding the sources and forms of linguistic interference faced by English language learners in Indonesia. The findings can serve as a foundation in developing more effective collaboration-based learning strategies to improve students' linguistic competence, particularly in academic contexts.

The linguistic interference found in this study, whether in morphological, syntactic or semantic forms, is directly influenced by the fundamental differences between the mother tongue system (Bahasa Indonesia) and the English system. Such differences create unique challenges for English language learners that not only affect writing skills, but also impact on the understanding of cross-cultural linguistic concepts. For example, the absence of to be found in Data (6) indicates the learners' tendency to translate directly without considering the need for auxiliary verbs in the English structure.

One of the main contributions of this research is to prove the effectiveness of collaborative learning techniques in overcoming linguistic interference. Focused discussions between groups enabled students to detect errors and reflect on their linguistic awareness. For example, students who previously did not understand the importance of parallel structure began to improve their sentence patterns after receiving feedback from the discussion group (Data 4). This is in line with Johnson & Johnson's (1994) view that social interaction in learning can improve the quality of individual learning.

The findings of this study expand the understanding of the relationship between mother tongue influence and the quality of English writing. In addition to making theoretical contributions in the field of applied linguistics, this study also offers practical solutions for English language education through a collaboration-based approach. This approach has the potential to be applied to various other foreign language learning contexts, particularly in countries that share similar characteristics of linguistic interference.

The implications of the results of this study include the development of more effective teaching strategies to reduce the impact of linguistic interference. This collaboration-based approach can be a model for teacher training programs and other foreign language teaching methods. In addition, by understanding the specific

characteristics of linguistic interference, teachers can design teaching materials that better suit learners' needs.

CONCLUSION

This study reveals that linguistic interference, especially at the morphological, syntactic, and semantic levels, is a significant challenge faced by FKIP UMSU Teacher Professional Program (PPG) students in writing English abstracts. Forms of interference such as the absence of to be, lack of parallel structure, errors in possessive relationships, and erroneous phrase arrangement patterns indicate the influence of Indonesian structures on English constructions. In addition, the findings show that the application of collaborative learning can significantly reduce this syntactic interference. The collaborative approach encourages students' linguistic awareness and provides space for more effective reflection and improvement.

The main conclusion of this study is that collaborative learning techniques are not only effective in improving syntactic accuracy, but also contribute positively to students' understanding of the fundamental differences between Indonesian and English. These results emphasize the importance of collaboration-based learning methods in English language teaching for professional education contexts. This method can be integrated into the curriculum to help students overcome the challenges of language interference, particularly in academic tasks such as writing abstracts or scientific articles. This research enriches the study of applied linguistics, especially in understanding how the influence of mother tongue can be minimized through certain pedagogical approaches. Not only that, this finding opens up opportunities for further research on the effectiveness of collaborative learning methods in other foreign language teaching contexts.

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