Analysis of the use collocation aviation polytechnic' thesis abstract

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Abstract

Collocation is also a good way to memorize new words. Words that are naturally associated in context are more effectively understood than those not associated; vocabulary is better taught in context; context alone is inadequate without deliberate connection. Context and deliberate association, particularly collocations, offer connections that allow learners to understand thoroughly the meaning of a word and to add it to their existing vocabulary. The aim of correct collocation during a conversation between a pilot and air traffic controller is to minimize the risk o misunderstandings a well-defined set of words are used in mostly the same sequence when clearances are given by the Air Traffic Controller and read back by Pilots.

Keywords: Collocation; Air traffic controller; Vocabulary

1. Introduction

Collocations are known as a key aspect of language use to differentiate between native speakers and non-native speakers. Collocation is also a good way to memorize new words. Words that are naturally associated in context are more effectively understood than those not associated; vocabulary is better taught in context; context alone is inadequate without deliberate connection (Nation, 2004). Context and deliberate association, particularly collocations, offer connections that allow learners to understand thoroughly the meaning of a word and to add it to their existing vocabulary. While offering a guideline on how to memorize new words, the process of learning words by collocations often instructs learners to use proper words at the right time and place. On the other hand, without any knowledge of the collocation, learners might make up something that is not native or even unacceptable.

Studies on collocation used in students' academic essay writing have been provided by previous researchers. The research by Lubis (2013) explored wrong English collocations made by Indonesian English learners to find out the causes of the wrong collocations. It is observed that the inaccurate English collocations are due to some causes which

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are lack of knowledge of collocation by learners, discrepancies in collocation between English and Bahasa Indonesia, poor consistency in vocabulary by learners, and heavy intervention in the native language of learners. Alotaibi et al (2015) studied the capability of Kuwaiti EFL learners to identify and obtain grammatical collocations in English. The results showed that the main reason for grammatical collocation errors was found to be a literal translation from Arabic. Meanwhile, Shitu (2015) conducted an analysis of collocation errors in English as Second Language (ESL) essay writing of students in Nigeria. Results of the study indicate that the collocation errors of the students are attributable to poor teaching and learning.

The aim of correct collocation during a conversation between a pilot and air traffic controller is to minimize the risk of misunderstandings a well-defined set of words are used in mostly the same sequence when clearances are given by ATC and read back by Pilots. In this study, researchers took the object at the students of *Politeknik Penerbangan Surabaya (Aviation Polytechnic of Surabaya)*. Polytechnic is an institution that organizes vocational education in a number of specialized fields of knowledge. *Politeknik Penerbangan Surabaya* is a state institution under the auspices of the Ministry of Transportation, specifically the Transportation Human Resources Development

Agency which has a role in developing professional aviation staff, especially aeronautical communication experts, technical experts, and air traffic controller experts for the aviation world. Therefore, students of *Politeknik Penerbangan Surabaya* are expected to learn English for the specific purpose to support aviation communication skills.

a. Collocation

Collocation is also defined as two or more lexemic combinations arbitrarily restricted, forming an entire meaning (Lewis, 1997). It examines how language learners (L2) are formed in order to gain understanding and to acquire the word and pattern of collocation. Gledhill (2000) argued that collocations are fundamental units in texts, validate the existence of discourse communities, and are subconscious efforts to adapt the norms of discipline. Therefore, Stubbs (2002) also claimed that there are semantic associations between the node and the collocates.

Leech (1974) discusses the same idea but in different words. Leech (1974) claimed that one aspect of a word's meaning is the product of connections that a word acquires because of the meaning of words that tend to occur in its surroundings. While Ghazala (2006) proposed that collocations are terms that are usually found next to or' co-located' with each other. Yet, instead of grammatical collocation, all the meanings above the emphasis being put on lexical collocation.

According to Benson et al (2010), collocation is an analysis of the word combination that has fixed-combination and repeated combination that exists throughout all languages around the world, specifically in English. Thus, based on the above statement, collocation is seen to be two words that usually go together, so we can't separate them since these words have a fixed combination. For example, there is a "powerful engine" as a collocation, according to McCarthy & O'Dell (2005). In that form, the word engine commonly collocates with powerful not with strong although words powerful and strong have the same meaning.

If we try to replace the word "powerful" with "strong" then we collocate with an engine, it will sound unnatural for a native speaker because the engine has fixed to collocate with powerful. McCarthy & O'Dell (2005) supports this idea, a pair of words might not be absolutely wrong because people will understand what is implied, but as a typical collocation, it may not be common. For example, if someone said I did a few mistakes they will be understood but a fluent English speaker will probably say I made a few mistakes.

According to Manning (1999) collocations are important for a number of applications:

1) Natural language generation, to make sure that the output sounds natural and mistakes like powerful tea or to make a decision are avoided,

2) Computational lexicography (to automatically identify the important collocations to be listed in a dictionary entry)

3) Parsing (so that preference can be given to parses with natural collocations)

4) Corpus linguistic research (for instance, the study of social phenomena like the reinforcement of cultural stereotypes through language).

According to Benson (1986) collocation can be divided into two main groups, lexical collocation, and grammatical collocation :

Grammatical collocation is made up of a dominant word, such as a noun, an adjective, or a verb, and a preposition or grammatical structure like an infinitive or a clause. Grammatical collocation categorized the grammatical collocations into eight groups, marked as G1 to G8. Thus, G8 collocations contained nineteen English verb patterns (Benson 1986).

Lexical collocation is made up of nouns, adjectives, verbs, or adverbs. There are seven types of lexical collocations, marked as L1 to L7 (Benson 1986):

1) L1. Verb (donating creation or activation) + noun (pronoun or prep. phrase)

This type is consist of a verb denoting creation or activation and a noun/ a pronoun. Example (denoting creation): come to an agreement, compose a music, set an alarm, launch a missile

2) L2. Verb (meaning eradication or nullification) + noun

This type is combination between verb (nullification) and noun. Example: revoke a license, demolish a house, annul a marriage, reject an appeal, with draw an offer. Some verbs denoting similar meaning and that can beused with large number nouns are considered as free combination. For example the verb destroy can combine with almost any nouns denoting physical objects.

3) L3. Adjective + noun

This type is combination between adjective and noun. Thus, more than one adjective can collocate with same noun. Example: strong coffee, a rough estimate, strong/weak tea, kind/best regards

4) L4. Noun + verb

This type is combination between noun and verb. It means the verbs names an action characteristic of the person or things designated by the noun. Example: bees buzz, bombs explode, alarms go off, ceasefire agreement

5) L5. Noun + noun or Noun + of + noun

This type is combination between noun and noun. Or the lexical collocation which indicates the unit that is associated with a noun. Example: a pack of dogs, a herd of buffalo, a bit of advice

6) L6. Adjective + adverb or adverb + adjective

This type is combination between adjective and adverb, or when adverb combine with adjective. Example: sound asleep, hopelessly addicted, deeply absorbed, closely acquainted

7) L7. Verb + adverb

The last type is combination between verb combines and adverb. Example: anchor firmly, argue heatedly

b. *Collocation Tools*

To help second language writers achieve accurate and fluent collocation production in their written work, researchers believe that second language writers should take advantage of learner-friendly collocation tools: online, electronic, or hard copy resources/dictionaries designed for language learners (Nurmukhamedov, 2016). In some studies, online corpus tools were used as an alternative to collocation dictionaries and were found to be helpful for collocation production.

Brezina et al (2015) recently developed the tool GraphColl that introduces a new dimension to the corpus-based analysis of collocation, plotting networks between multiple words, rather than simply showing associations between two words at a time, as most common corpus tools do. The advantage of using GraphCollis thus not only the efficiency with which it builds collocation networks on the fly, but also its potential to uncover a dimension of linguistic and social research that would otherwise remain unexplored.

According to Baker (2016), the creation of the tool GraphColl literally adds a new dimension to collocation, both theoretically and methodologically. The collocational network approach resulted in a richer analysis than that carried out by using a traditional approach to collocation. Collocational networks, and in particular the different types of graphs that are suggestive of certain relationships between multiple words, are therefore a useful way forward for corpus linguistics research.

c. *English for Specific Purpose*

In English language teaching, there are three categories that determine the condition of the students, either they learn English as Foreign Language, English as Second Language, or English as a mother tongue. Here, ESP is able to exist in the part of either English as a foreign language or English as a second language that offers three different categories that focus on students' specialism, they are English for Science and Technology, English for the Social and Sciences, and English for Business and Economics. Each of them points out two main types that regard ESP students require English for academic study (EAP) or English for work or training (EOP: English for Occupational Purposes).

Based on the explanation above, it can be concluded that the existence of ESP in English language teaching was caused by the usage of English in broad fields, English for Science and Technology, English for theSocial and Sciences, and English for Business and Economics, that demand students to master English as a toolto a communicate in each field. So that, ESP tries to help students master English in each field by providing appropriate English material.

The objectives of teaching ESP create a dare for teacher and syllabus designer to provide a course in order to reach the objectives above because to provide a course a teacher and syllabus design have to consider what material must be given, students' conditions including learning style to decide learning strategy, school condition such as facilitation, etc.

The researcher refers to some previous research that is relevant to the topic in compiling this study. Lubis (2013) conducted a research to explore wrong English collocations made by Indonesian English learners and to find out the causes of the wrong collocations. After comparing the occurrences of English collocations and Indonesian collocations, it is observed that the inaccurate English collocations are due to four causes: (1) lack of knowledge of collocation by learners, (2) discrepancies in collocation between English and Bahasa Indonesia, (3) poor consistency

in vocabulary by learners and (4) heavy intervention in the native language of learners. It is suggested that students should be advised that collocation, like grammar, is one aspect of not only English but of all other languages that should be learned, as vocabulary skills can contribute to the construction of correct collocations. The study conducted by Alotaibi et al (2015) focused on the capability of Kuwaiti EFL learners to identify and obtain grammatical collocations in English. The study also explored how their level of English comprehension and the form of grammatical collocation affect their interpretation and the development of such collocations. The results showed that the main reason for grammatical collocation errors was found to be a literal translation from Arabic. Prepositions in Arabic do not usually correspond to their English counterparts, e.g. in "angry at," which is literally translated as "angry from" in Arabic. Eventually, the lack of knowledge of grammatical collocations is also an important reason for such mistakes. Shitu (2015) conducted analysis an of collocation errors in English as Second Language (ESL) essay writing of Federal College of Education, Kano, North-West Nigeria students. Results of the study indicate similarities as well as regular and repeated errors resulting in a pattern. Based on the pattern identified, the conclusion is that the collocation errors of the students are attributable to poor teaching and learning resulting in incorrect rule generalization.

2. Method
a. Research Design
The research approach is carried out to identify an abstract thesis toward the criteria of collocation type according to Benson (1986). The researcher used document analysis as a research design in this study. This design uses because in qualitative research document analysis is a method that is widely applied for writing with the purpose of identifying specific characteristics of materials that are going to be analyzed in the general form of textbooks or any other host of documents (Donald Ary, 2010).

Anderson (2007) defined a descriptive presentation of qualitative data as content analysis. Content analysis is also a method used in analyzing qualitative data. Content analysis is applicable to various studies including language studies, which concern with analyzing the content of certain matter through classification, tabulation, and evaluation. In this case, the researcher would examine the use of collocation in an abstract thesis of cadets at *Aviation Polytechnic Of Surabaya*.

b. Data and Source of Data
The statement about the data source in descriptive research was taken from Sutopo (2002) who stated that the data source in descriptive research can be individuals, events or actions, places or locations, items, pictures and records, documentation and achievements. In this study, the source of information is taken from the document. The document is written information about something that was used in the past until now.

The data consisted abstract thesis of cadets from *Aviation Polytechnic Of Surabaya* located in East Java, Indonesia in the academic year of 2018-2019, specifically in aeronautical communication class, made up of twenty-two cadets. Twelve of the abstract thesis of cadets were involved as the sample in the research. Aeronautical communication is a class that is related to Aviation English until the cadets prove their acknowledgment in the aviation world. An abstract is a brief summary of the most important points in a scientific paper, according to CaroleSlade (2003), an abstract is "a concise summary of the entire paper."

c. Research Instrument
The researcher chooses an instrument which is students' abstract thesis material and tabulation of data. In particular, the Oxford Collocation Dictionary, the Dictionary of Cambridge Advanced Learner and the British National Corpus were used to determine whether the collocation used on the writing of students was correct or wrong. The researcher also used a tool GraphColl that introduces a new dimension to corpus-based analysis of collocation, plotting networks between multiple words, rather than simply showing associations between two words at a time, as most common corpus tools do (Brezina et al, 2015).The advantage of using GraphColl is thus not only the efficiency with which it builds collocation networks on the fly, but also its potential to uncover a dimension of linguistic and social research that would otherwise remain unexplored.The example of the data classification table is shown below :

Table 1. Example of Classification Table

Code	Pattern	Incorrect	Correct Collocation	Sentence

| S3/G/3 | Noun   +preposition | coordinationfrom | coordination between | The emergence of these obstacles is due to the frequent delay of Airlines Operators in sending information about new slot time updates so that the slot time management process carried out by ACO personnel serving in the ARO Unit will be hampered, besides the lack of **coordination** |

from the ATFM unit regarding Slot Timechanges change of slot tim

Notes:

S = student

L = lexical collocation

G = grammatical collocation

1 = refers to patterns in Grammatical / Lexical Collocation

d. Data Collection

The researcher collected the data sufficient for this study to meet the research question. The researcher uses the document to collect the data. Documentation is able to be examined without the transcription required for analysis and interview. Documentation is the technique to search for data on things or variables in the form of notes,transcripts, books, newspapers, magazines, inscriptions, and agenda for client-related information.

The aim of the report is to complement the information not supplied by the informant and to see how much data can be accounted for. In this study, the researcher used the students' abstract thesis. After collecting the data, the researcher analyzed the data one by one and then described the result.

e. Data Analysis Technique

In the analysis of data, the researcher must also analyze the validity of the information sources in order to obtain the valid data. The researcher uses the triangulation method to confirm the trustworthiness of the information. Triangulation methodology is a technique for analyzing the trustworthiness of information which uses objects outside the data to examine the data and to compare the data

In this study, documentation method is done by using three steps :

a. First, referring type of collocation according Benson, 1986.

Code in collocation pattern according Benson :

Table 2. (Benson, 1986) : Collocation Patterns

Code	Pattern
G1	Noun + preposition
G2.	Noun + to infinitive
G3	Noun + that + clause
G4	Preposition + noun
G5	Adjective + preposition
G6	Predicate adjective + to infinitive
G7	Adjective + that + clause
G8a	Subject + verb + object+ to object (or) subject + verb + object + object
G8b	Subject + verb + object + to + object
G8c	Subject + verb + object + for + object (or) subject + verb + object + object
G8d	Subject + verb + preposition + object (or) subject + verb + object + preposition + object
G8e	Subject + verb+ to infinitive
G8f	Subject + verb + infinitive
G8g	Subject + verb + verb-ing
G8h	Subject + verb + object + to infinitive
G8i	Subject + verb + object + infinitive
G8j	Subject + verb + object + verb-ing
G8k	Subject + verb+ possessive + verb-ing
G8l	Subject + verb + (object) + that + clause

G8m	Subject verb+ object + to + be + compound
G8n	Subject + verb + object + compound
G8o	Subject + verb + object + object
G8p	Subject + verb + (object) + adverbial
G8q	Subject + verb + (object) + wh-word
G8r	Subject(it) + verb + object+ to infinitive (or) subject(it) + verb + object + that- clause
G8s	Subject + verb + compound (adjective or noun)
L1	Verb (donating creation or activation) + noun (pronoun or prep. phrase)
L2	Verb (meaning eradication or nullification) + noun
L3	Adjective + noun
L4	Noun + verb
L5	Noun + noun or Noun + of + noun
L6	Adjective + adverb or adverb + adjective
L7	Verb + adverb

b. Second, deciding on the object abstract thesis of students in the academic year 2018-2019.
c. Third, analyzing the incorrect collocation made by students and interpreting the findings, and stating conclusions.
 To assess the acceptability of the usage of collocations created by the students, the Oxford Collocations Dictionary for Students of English offers links to 250,000-word combinations and 75,000 explanations on how such collocations are used, while the British National Corpus is also used to include details about the terms for which headwords could be combined. The British National Corpus contains 100 million words of written and spoken language; the written part includes 90 million words from eight genres.

3. Findings and Discussion
Findings
 a.Types of collocation used by the students
 Based on the research findings, the researcher classified the types of collocation based on Benson, *et al* (1997). Benson, *et al* (1997) formulated the types of collocation into two categories there is lexical and grammatical collocation.
 Based on the document analysis from 20 abstract theses, the researcher concluded that there are 12 abstract thesis use collocation, and 10 types of collocation found in the students' abstract thesis, both lexical and grammatical.
a. The lexical collocation consists of
   1) Adjective + Noun,
   2) Noun + Noun,
   3) Verb + Noun,
   4) Phrase,
   5) Verb + Preposition,
   6) Verb + Adverb.
b. The grammatical collocation consists of
   1) Noun + preposition,
   2) Adjective + Preposition,
   3) Verb + Adjective,
   4) Preposition + Noun.
The most prominent collocation made by the students is lexical collocation which accounted for 82 which divided into 6 types of patterns. The pattern with most frequently appears in students' writing is Adjective + Noun which counted 21. Meanwhile, the use of grammatical collocation in students' writing is not too common for only 21. The pattern with the most frequently appearing in students' writing is Noun + Preposition which counted 16. In other words, students prefer to use lexical collocation instead of grammatical collocation. **b. The Incorrect Collocation Made by the students**
 Based on the analysis, lexical collocations were found to be the most incorrect collocation created by the students in their writings. Students made the most mistakes in using collocations of Adjective + Noun. There are two major issues faced by students when using collocation in their writing product. First, students change a particular word with its synonym. We can take a look at one of the examples of Adjective + Noun collocation produced by students in their writing; it was found that some of the students used "literature studies" rather than "research".

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"Literature" and "research" have similar meanings when it comes to a single word, but those words have different use in a sentence. "Literature" often refers to poetry and fictional text, while "research" refers to detailed study into a specific problem, concern, or issue using the scientific method. The students prefer using "literature" to collocate with "studies" because it translates to Indonesian language as "studi literatur". They seemed not to choose the word "research" because they have already thought in their mother language not directly in target language. So that way, the word "literature" cannot replace the use of "research" in "research studies" asit will produce different meaning.

This finding is consistent with Boonyasaquan (2006: 79) which claimed that collocations have the components which cannot be substituted or modified by a synonym or word of similar meaning. It means that collocations are the word combination which has its own meaning and it comes naturally as native speaker uses in their everyday conversation. The next issue faced by students is that the mother tongue of students' affects the use of collocations. Another example is "coordination from", which is incorrect because in English, the word "coordination" usually collocates with "between", not "from". On the other hand, in Indonesia, the word "from" (daripada) can collocate with the "coordination" (koordinasi). Thus, mother tongue influences their English in that way, particularly when using collocations. It means that we cannot deny that as students produce collocations to the target language, their first language affects the process of collocations transition.

Based on the findings, lexical collocations in general and Adjective + Noun collocations in particular have become the most types of collocation errors for the students' essay writings. Hence, this research finding has shown that most student used their mother tongue in their writing, instead of using collocation naturally. So that way, when they communicate their ideas in their writings, their first language affects the target language.

Discussion

From 20 abstract thesis produced by students of *Politeknik Penerbangan Surabaya*, there are 12 abstract thesis use collocation. The collocations produced by the students in their abstract thesis are as follow: 1) adjective + noun, 2) noun + noun, 3) verb + noun, 4) noun + preposition, 5) phrase, 6) verb + preposition, 7) adjective + preposition, 8) verb + adjective, 9) verb + adverb, and 10) preposition + noun. Based on this categorization, some types are included in grammatical collocations while the others are included in lexical collocations.

Table 3. Types of Grammatical Collocations Used by Students

Type of collocation	Pattern	Example of collocation used by the student	Total
Grammatical	Noun + preposition	due to, form of, lack of, distribution between, purpose of, coordination between, communication between, coordination between	16
Grammatical	Adjective + preposition	adjacent to, related to	2
Grammatical	Verb + adjective	was instrumental, considered appropriate	2
Grammatical	Preposition + noun	in progress	1
Total	4 patterns		21

Table 4. Types of Lexical Collocations Used by Students

Type of collocation	Pattern	Example of collocation used by the student	Total
Lexical	Adjective + noun	direct observation, ineffective management, good communication, efficient operation, outbound traffic, accurate data, precise data, important	21
		role, social integration	

Lexical	Noun + noun	data processing, information services, traffic flow, safety aspect, problem solving, air traffic, data collection, study programs, quality standards, quality assurance, data storage, research method, air traffic, military flight, military personnel, flight schedule, main problem, main task, main function	29
Lexical	Verb + noun	cause problem, have impact, have credibility, answer question, provide service, obtain data, provide solution, provide input, provide information, take place, carry out duty, conduct research, increase knowledge, make contact, reduce burden, provide facility, provide communication, affect performance	20
Lexical	Phrase	result of the study, purpose of the research, lack of coordination	8
Lexical	Verb + preposition	transform into, relate to	2
Lexical	Verb + adverb	put forward	1
Total	6 patterns		81

As the table showed above, there are 10 different patterns of collocations used by students in their abstract thesis. The total number of collocations used by students is 102. The most frequent type of collocation that occurs in students' writing is Adjective + Noun. The total number of Adjective + Noun collocations is 21 from 12 abstract thesis. Adjective + Noun is typically involved in lexical collocation. So that way, the first type of collocation which commonly produced by students in their abstract thesis is Adjective + Noun.

The second type of collocation which commonly occurs in students' writing is Noun + Noun collocation. The total number of Noun + Noun collocation which commonly occur in students' abstract thesis is 29 from 12 abstract thesis. Noun + Noun is typically involved in lexical collocation. The third type of collocation which commonly occurs in students' writing is Verb + Noun. Verb + Noun collocation is typically involved in lexical collocation. The total of Verb + Noun collocation which commonly occur in students' writing is 19 from 12 abstract thesis. The next type of collocation which commonly occur in students' argumentative abstract thesis is Noun + Preposition collocation. Noun + Preposition collocation is involved in grammatical collocation. The total number of Noun + Preposition collocation which commonly occur in students' writing is 16. After Noun + Preposition, Phrase become type of collocation which typically found in students' writing. Phrase is involved in lexical collocation. The total number of phrase collocation which commonly occur in students' essay writing is 7. The next types of collocation are Verb + Preposition collocation, Adjective + Preposition collocation, and Verb + Adjective collocation. Verb + Preposition is typically involved in lexical collocation, while Adjective + Preposition and Verb + Adjective is typically involved in grammatical collocation. The total of Verb + Preposition collocation, Adjective + Preposition collocation, and Verb + Adjective collocation. Verb + Preposition which commonly occur in students' argumentative essay writing is 2 each. The last types of collocation are Verb + Adverb collocation and Preposition + Noun collocation. Verb + Adverb is typically involved in lexical collocation., while Preposition + Noun collocation is typically involved in grammatical collocation. The total of Verb + Adverb and Preposition + Noun which commonly occur in students' argumentative essay writing is 1 each. Therefore, based on the categorization, the total number of lexical collocations which typically found in students' writing is 82, while the total of grammatical collocations which commonly occur in students' argumentative essay writing is 21. So, we can claim that the most common type of collocations used by students is lexical collocation.

The Incorrect Collocations Made by Students

In this research, it is found that there are some incorrect collocations found on students' abstract thesis. For more detailed explanation, the data are described in tables.

Verb + Noun Incorrect Collocation

The incorrect Verb + Noun collocations in students' abstract thesis are shown in table below.

Table 5. Verb + Noun Incorrect Collocations

Code	Type	Incorrect	Sentence
S3/4/L	Verb + noun (conduct observation)	conducting observation	The method used is descriptive qualitative to describe the conditions and facts that occur based on data obtained by **conducting observations**, questionnaires and interviews that have been conducted during the lime month on October 3, 2018 to February 28, 2019.

The table above showed that the type of collocation words that found in student number 3 collocates the word "conduct" with the word "observation" The word "conduct" refers to *organize and carry out*, while the word "observation" refers to *the action or process of observing something or someone carefully or in order to gain information*. The word "observation" is better suited to collocate with the word "make" that means *to execute*. Therefore, the correct collocation word "observation" is the word "conduct".
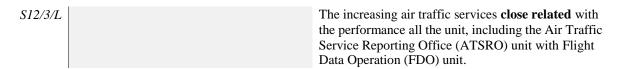
Adverb + Adjective Incorrect Collocation

The incorrect Adverb + Adjective collocations in students' abstract thesis are shown in table below.

Table 6 Adverb + Adjective Incorrect Collocations

Code	Type	Incorrect	Sentence
S5/3/L	Adverb + adjective (closely related)	close related	The increasing air traffic services **close related** with the performance all the unit, including the Air Traffic Service Reporting Office (ATSRO) unit with Flight Data Operation (FDO) unit.

| S12/3/L | | The increasing air traffic services **close related** with the performance all the unit, including the Air Traffic Service Reporting Office (ATSRO) unit with Flight Data Operation (FDO) unit. |

The table showed that the type of collocation word that found in the student 5 and 12 is lexical collocation consist of Adverb + Adjective pattern. In the incorrect collocation, the adverb "close" collocates with the adjective "related". "Close" refers to *a short distance away or apart in space or time*, while "related" means *be causally connected*. The word "close" is not suitable to collocate with the word "related", it is better to use the adverb form "closely" to modify the adjective. Therefore, the correct collocation of the word "related" is the word "closely".

Verb + Adverb Incorrect Collocation

The incorrect Verb + Adverb collocations in students' abstract thesis are shown in table below.

Table 7 Verb + Adverb Incorrect Collocations

Code	Type	Incorrect	Sentence
S3/4/L	Verb + adverb (run efficiently)	run optimal	The purpose of writing this final project is to find out how to optimize LOCA which is considered still not able to **run optimal** between ARO Unit and Airlines Operator and ATFM.

From the table above, it is shown that the type of collocation word that found in the student 3 is lexical collocation consist of Verb + Adverb pattern. In the incorrect collocation, the verb "run" collocates with the adverb "optimally". "Run" refers to *continue in force, operation, or production*, while "optimally" means *in the best or most favorable way*. The word "run" is more suited to collocate with the word "efficiently", which means *in a way that achieves maximum productivity with minimum wasted effort or expense*. Therefore, the correct collocation of the word "run" is the word "efficiently".

Noun + Preposition Incorrect Collocation

The incorrect Verb + Adverb collocations in students' abstract thesis are shown in table below.

Table 8. Noun + Preposition Incorrect Collocations

Code	Type	Incorrect	Sentence
S3/3/G	Noun + preposition (coordination between)	coordination from	The emergence of these obstacles is due to the frequent delay of Airlines Operators in sending information about new slot time updates so that the slot time management process carried out by ACO personnel serving in the ARO Unit will be hampered, besides the lack of **coordination from** the ATFM unit regarding Slot Time changes change of slot time.

From the table above, it is shown that the type of collocation word that found in the student 3 is grammatical collocation consist of Noun + Preposition pattern. In the incorrect collocation, the noun "coordination" collocates with the preposition "from". "Coordination" refers to *the organization of the different elements of a complex body or activity so as to enable them to work together effectively*, while "from" indicates *thepoint in space at which a journey, motion, or action starts* or *the point in time at which a particular process, event,or activity starts.* The word "coordination" is more suited to collocate with the word "between", which means *at, into, or across the space separating (two objects or regions),* because "coordination" involves more than one element to work together. Therefore, the correct collocation of the word "coordination" is the word "between".

4. Conclusion

Based on the results of the document analysis, it can be concluded that the types of collocation used by the students in abstract thesis are lexical and grammatical collocation consist of 10 types pattern both in lexical and grammatical. The most prominent collocation made by the students is lexical collocation that counted 82 which

divided into 6 types of pattern. The pattern with most frequent appear in students' writing is Adjective + Noun which accounted 21. Meanwhile, the use of grammatical collocation on students' writing is only 21. The pattern with most frequent appear in students' writing is Noun + Preposition which counted 16. In other words, students tend to use lexical collocation rather than grammatical collocation.

   Based on the result, it can be concluded that there are quite many incorrect collocations found on students' abstract thesis. From 12 students, there are 5 incorrect collocations that was found in their abstract thesis. The incorrect collocations made by students include lexical and grammatical collocation, which consist of 1) Verb + Noun, 2) Adverb + Adjective, 3) Verb + Adverb, and 4) Noun + Preposition.

Suggestion

   Result findings indicate that Indonesian EFL learners will greatly benefit from teaching grammatical collocations as well as lexical collocations for the common node words. Teaching all the collocations of a second language is impossible; we need standards to determine which collocations will be used in teaching materials. Collocations in a neutral register or other special register that is helpful to the learner should be clearly acceptable and frequent. For example, combinations such as conduct a research or performing an experiment may appear helpful in an academic writing course. The lecturers will have to encourage the use of correct collocation to make writing more natural and efficient for the students. In academic writing, the student needs to be considerate of using collocations particularly in essay writing since they obviously cannot mix words freely because words have their own natural combination. Students should be aware that lexical definitions rely not only on denotation or interpretation and semantics, but also on the relationship of collocation that affects the lexical meaning and grammatical functions.

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