

**THESIS**

**LEXICAL RICHNESS AND SYNTACTIC COMPLEXITY OF  
THE ENGLISH EXAM PAPERS OF SBMPTN**



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**MASTER OF LINGUISTICS STUDY PROGRAM**

**FACULTY OF HUMANITIES**

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**THESIS**

**Submitted as Partial Fulfilment of the Requirements for the  
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**Universitas Airlangga, Surabaya**

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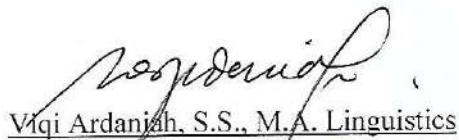
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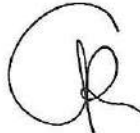
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### DECLARATION OF AUTHORSHIP

This thesis contains no material which has been accepted for the award of any other degree or diploma in any university. And to the best of this candidate's knowledge belief, it contains no material previously published or written by other person except where due reference is made in the text of the thesis.

Surabaya, July 9<sup>th</sup> 2019  
  
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**ABSTRACT**

This study aims to investigate the lexical richness and syntactic complexity of English exam papers of SBMPTN from 2009 to 2018 consisting of ten papers with 19.335 tokens. The data were analyzed by using several tools: AntConc, AntWord Profiler, Vocabprofiler, Claws Tagger, and L2 Syntactic Complexity Analyzer. Lexical richness involves lexical originality, lexical density, lexical sophistication, and lexical variation proposed by Laufer and Nation (1995). This study found that the most original English exam papers of SBMPTN is in 2010. In the lexical density findings, the writer found out that the densest lexical items existed in the year 2010 with the value 0.54. For the lexical sophistication, the writer figured out that several English exam papers of SBMPTN such as in the year 2016 and 2018 has exceeded the percent token of AWL 9% based on Coxhead's theory. In lexical variation, the English exam papers of SBMPTN which have the most lexical variation is in the year 2010 and 2013. For the syntactic complexity consisting of length of production unit, the amount of subordination, the amount of coordination, and the degree of phrasal sophistication, this study almost has the level of complexity as college-level English writing and undergraduate research articles. This study is expected to give broader knowledge to the reader as well as a critic to the test makers in order to give more attention to the lexical richness and syntactic complexity in composing the next English exam papers of SBMPTN.

**Keywords:** *Lexical richness, syntactic complexity, SBMPTN*



## DEDICATION

I dedicated this thesis to my family. My parents, Supardi and Diah Marlia for believing me for all the decisions I have taken up to now, always supporting me through this process and always pray for me since day one I was accepted in this respected institution. To my younger brother, Firman Dwi Ardiansyah, I hope you can pursue your dreams as high as possible and always being my spirit to go through my days.

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## CHAPTER I

### INTRODUCTION

#### 1.1. Background of the Study

English proficiency refers to the ability of using the English language to read, speak, write, and comprehend English within the academic classroom situation. According to Maleki & Zangani (2007), the research conducted on the relationship between language proficiency and academic achievement has revealed that the most fundamental problem faced by ESL learners is comprehending the whole concepts and contents of diverse curriculum subjects which is learned in the target language, in this case the English language.

Various English proficiency tests are held by educational or language institutions to measure the ability of learners in comprehending the English language properly such as TOEFL (Test of English as a Foreign Language) and IELTS (International English Language Testing System) or English proficiency tests involved in such student entrance test like National Exam and STAN (*Sekolah Tinggi Akuntansi Negara*). The English proficiency test has several exam paper codes, respectively. Nevertheless, although some questions are different from other exam papers, they must not vary significantly in terms of the difficulty level.

In relation to the language proficiency tests, there are several numbers of researchers that examine the difficulty level of exam papers. First is the research conducted by Backhoff, Larrazolo, & Rosas in 2000. They mentioned that the difficulty level of the Basic Knowledge and Skills Examination (EXHCOBA)'s

question is a little more difficult compared to the multiple choice questions (0.62). The difficulty range is very close to what is expected. They also found that only 12% of items were presented with a level of difficulty that was not common (too easy or too difficult). In fact, the percentage level of difficulty of the expected items is 10%.

Another research about the difficulty level of TOEFL was done in 1995 by Nissan, DeVincenzi, & Tang. They make a classification system for certain items. It starts by collecting samples of items and by analyzing them with the aim of finding and grouping items that are easy and difficult. They suggested that the dialogue in Listening Comprehension Section of TOEFL test must have the appropriate level of balanced item. In addition, the test developer must re-examine items at various levels of difficulty in order to identify each item that has been grouped.

Beinborn, Zechs, & Gurevych (2014) demonstrated that the level of difficulty of a particular test ought to be challenging for the test takers yet not trigger to frustration. They observed the difficulty of the language proficiency test in the form of the C-Test. Beinborn, et al. (2014) developed the four dimension models of difficulty: solution difficulty, candidate ambiguity, inter-gap dependency, and paragraph difficulty to evaluate the subjective difficulty standard which is created by teachers. Their approach is based on objective measurable properties in order to produce consistent results.

Another research about the difficulty level of language proficiency was done in 2018 by Pasi & Yusrizal. Their study aimed to investigate the validity of



Indonesian Language test created by MTsN teachers of grade 8 in Aceh Besar. Technique of data analysis they used was AnatesV4.02 program to measure validity, reliability, difficulty level, distinguishing power, and distractive effectiveness. The study showed that the difficulty level of Indonesian language test compiled by VIII MTsN teachers in Aceh Besar is in the medium category.

Cited from *ristekdikti.go.id*, in Indonesia, there are three admission selections to state universities in 2019. They are SNMPTN, SBMPTN, and Local Tests, with each carrying capacity of 20% minimum for SNMPTN, 40% minimum for SBMPTN and maximum 30% for Local Test for each state universities. In present study, the writer only took a sample from exam papers of SBMPTN because in SNMPTN selection, there is no test required (only report cards are considered). In addition, in Local test, the level of competition is so tough that the exam papers are not widely disseminated like SBMPTN exam papers.

The present study was initiated from the assumption of the writer who works as a high school teacher in a tuition center. Every year, the writer has to teach students from various schools and from various regions in Indonesia, from Sumatera Island to Papua Island. Hearing the complaints of students about the difficulty of national university entrance test (SBMPTN) year by year especially in English subject, this prompted the writer to make further observations about the causes of the difficulties regarding SBMPTN. This might be caused by the lack of skill from individual itself or because of the SBMPTN exam papers which have a level of difficulty that they cannot grasp.

Cited from [www.sbmpn.ac.id](http://www.sbmpn.ac.id), SBMPTN (*Seleksi Bersama Masuk Perguruan Tinggi Negeri*) is a selection of new admissions through a written exam or combination of written and skill exam result. Actually, there are two major fields of study being tested in SBMPTN, namely Natural Science and Social Science. However, both of them consist of English proficiency test that must be undergone by the test takers.

English proficiency is one of important subjects that has to be comprehend well by student in Indonesia since English becomes a compulsory subject tested both for admission and graduation requirements from junior high and senior high school (<http://un.kemdikbud.go.id/>). In addition, for college admission, the students also have to follow entrance test that also requires English as subject tested. Therefore, in this study, English exam papers of SBMPTN was chosen as the object of research.

Unlike TOEFL ITP which consists of listening section, structure or written expression and reading comprehension, the English exam in SBMPTN only provides questions engaged with reading comprehension. It means that the test takers must comprehend the reading text well including the comprehension of vocabulary and sentence in accordance with their level. According to Hu & Nation (2000), one of the keys to success for language learners is comprehensive reading. The SBMPTN test takers will be faced with questions that require them to master knowledge about English, including concluding unknown meanings from the context, recognizing argument structures, and identifying idiomatic construction.

In line with the difficulty level of the exam paper, SBMPTN exam papers must also have the similar level of difficulty. According to Aiken (1996), large-scale examinations are designed to be implemented in more than one school group, usually in a state, region or country. Since its dimension and powerful social impact, its design must be adjusted to thorough quality standards. This points out for the test makers to regard the importance of the difficulty standard in making exam papers, particularly the English proficiency test in SBMPTN. The level of difficulty in exam papers of SBMPTN is attained by observing its Lexical Richness (Vermeer, 2000). In addition, this study also analyzes the Syntactic Complexity to identify complexity level of a text (Frantz, Starr, & Bailey (2015)), in this case is SBMPTN exam papers.

Lexical Richness is utilized for examining the word difficulty level in the text, in this case is the English exam paper of SBMPTN. In measuring Lexical Richness, there are four fundamental aspects: namely Lexical Originality (LO), Lexical Density (LD), Lexical Sophistication (LS), and Lexical Variation (LV). Daller, Hout, & Treffers-Daller (2003) conducted a research entitled Lexical Richness in the Spontaneous Speech of Bilinguals. They proposed two measurements (Advanced TTR and Guiraud Advanced) to calculate the lexical items which are used in oral text production by two groups of Turkish-German bilinguals. The result of the research indicates that the target measures for advanced lexical richness marked the characteristics of the bilingual profiles of the subject groups better than the traditional measures.

Another research related to lexical richness was made by Šišková in 2012. She compared different measurement of lexical richness in narrative writings compiled by EFL learners from Czech. The result shows that the three groups arrived at a different level. These results not only measure various types of vocabulary but also find relationships including: the strongest correlations are between measures of lexical sophistication and diversity; measures of lexical diversity and density are weakly correlated, and there are no significant correlations between the measurement of lexical sophistication and density.

One of the studies dealing with the lexical richness aspect is conducted by To, Fan, & Thomas (2013). They examined the lexical density and readability among four texts from English textbooks namely Active Skill for Reading (Anderson, 2003a, 2003b, 2003c, 2003d) at elementary, pre-intermediate, intermediate and upper-intermediate levels). The methods implemented in their study was lexical density and readability proposed by Halliday (1985), Ure (1971) and Flesch (1948). The result presents that three of four reading texts have high lexical density, regardless of the text for high school level. In terms of readability, the text level is appropriate with the readability level.

While lexical richness is utilized to calculate the word difficulty level in a text, syntactic complexity is functioned to measure a clause difficulty level in a text. As stated by Sotillo (2000), syntactic complexity is defined as the ability to produce writing that uses embedded subordinates and subordinate clauses. The types of embedded subordinate clauses were generally presented by *for*, *that*, *what*, and *which*. In addition, Ortega (2003) mentioned syntactic complexity was proposed to

seek the number of organization, the range of surface syntactic structures, and also the sophistication level of specific syntactic structures.

There are several numbers of researchers who conducted a study about syntactic complexity of the second language text. One of the studies is made by Lu in 2010 entitled *Automatic Analysis of Syntactic Complexity in Second Language Writing*. Lu (2010) examines fourteen different measurements proposed in second language development by using the computational system for the automatic analysis of syntactic complexity. The findings show that a very high consistency is obtained by the system on invisible test data from the corpus. He also described how this system was used in sample applications to analyze the extent to which each of these steps distinguishes between different levels of proficiency.

Another study about syntactic complexity was done by Wijanti in 2017. She examined the syntactic complexity of EAP reading materials Level 1, Level 2, and Level 3 in Sampoerna University. The finding revealed that the reading materials of EAP course Level 3 text is primarily needed to be reviewed and revised. Therefore, it could accomplish the five categories of syntactic complexity, i.e. the length of production unit, the sentence complexity, the subordination, the coordination, and the particular structure.

From several previous studies conducted by the researchers related to lexical richness and syntactic complexity, it seems that there are lack of focus in lexical richness and syntactic complexity in Indonesian national university entrance test or further called as SBMPTN. Therefore, in this study, the researcher intended to conduct a research which is expected to assist the English learners particularly the

students who are about to undergo SBMPTN in order to get better understanding in reading comprehension.

## **1.2. Statement of the Problems**

Based on the background of the study above, the research questions of this study are as follows:

1. What is the lexical richness of the English exam papers of SBMPTN for the last ten years?
  - a. Which of the English exam paper of SBMPTN is the most original (in terms of Lexical Originality) from 2009 to 2018?
  - b. Which of the English exam paper of SBMPTN has the densest content words (in terms of Lexical Density) from 2009 to 2018?
  - c. Which of the English exam papers of SBMPTN is the most sophisticated (in terms of Lexical Sophistication) from 2009 to 2018?
  - d. Which of the English exam papers of SBMPTN is the most varied (in terms of Lexical Variation) from 2009 to 2018?
2. What is the syntactic complexity of the English exam papers of SBMPTN from 2009 to 2018?

## **1.3. Objectives of the Study**

Based on the statement of the problems above, the objectives of the study are formulated as follows:

1. To determine the lexical richness of the English exam papers of SBMPTN from 2009 to 2018.
  - a. To determine the most original English exam paper of SBMPTN (in terms of Lexical Originality) from 2009 to 2018.
  - b. To discover which the English exam papers of SBMPTN has the densest content words (in terms of Lexical Density) from 2009 to 2018.
  - c. To examine which the English exam papers of SBMPTN has the most sophisticated words (in terms of Lexical Sophistication) from 2009 to 2018.
  - d. To determine which the English exam papers of SBMPTN is the most varied (in terms of lexical variation) from 2009 to 2018.
2. To determine the syntactic complexity of the English exam papers of SBMPTN from 2019 to 2018.

#### **1.4. Significance of the Study**

This study explores lexical richness and syntactic complexity in the English exam papers of SBMPTN for the last ten years from 2009 to 2018. Generally, this study is expected to provide a deeper understanding for the readers about lexical richness and syntactic complexity both from the definition and how to measure each of them in a text. In addition, this study is supposed to be useful for three objectives that are SBMPTN test takers, teachers, and the government, in this case it is the team maker of English exam papers of SBMPTN. From the SBMPTN test takers,

the result of this study is expected to provide a broader view about the vocabulary which appeared in the previous exam papers of SBMPTN. Hence, it will make it easier to comprehend the reading passage provided in the English test.

Moreover, the result of this study will bring benefit for the teachers especially for those who teach SBMPTN learners or test takers. This study will discuss lexical richness and syntactic complexity which will aid the teachers to set up the strategy on how to teach their students. Finally, this study wants to examine the feasibility level including the lexical richness and the syntactic complexity of the English exam papers of SBMPTN for the last ten years from year 2009 until 2018. This can be a criticism and input as a consideration for making the next English exam paper of SBMPTN.

For the linguistics field, this study is expected to give the treasure of language which always develops from time to time which might appear in the English exam papers of SBMPTN. Furthermore, these new words can later be validated and standardized which can be included in the dictionary so that they can be learned by all people.

### 1.5. Definitions of Key terms

- **Lexical Richness** : generally concerned with the measurement on how many different words are used in a text (spoken or written) (Read, 2000)
- **Lexical Originality** : According to Silva & Matsuda (2000), Lexical Originality or Lexical Individuality refers to the calculation by dividing the number of tokens unique to a writer by the total number of tokens.



- **Lexical Density** : Johansson (2008) underlines that Lexical Density (LD) is the term that is ordinarily used to depict the content word proportions (nouns, verbs, adjectives, adverbs) divided to the total tokens in a text.
- **Lexical Sophistication** : defines the using of more ‘basic’ or more ‘advanced’ vocabulary which refers to words that have high frequency in the language (Palfreyman & Karaki, 2017).
- **Lexical Variation** : one of the aspect used in lexical richness to measure the scale of a learner’s vocabulary as depicted on how he or she uses the language dealing with the measurement of Type Token Ratio (TTR). According to McCarthy & Jarvis (2013) and Yu (2010).
- **Syntactic Complexity** : Ortega (2003) mentioned that syntactic complexity is the term to calculate one of the following aspects: length or production units (i.e. clauses, sentences, and T-units) amount of embedding or subordination, amount of coordination, range of surface syntactic structures, and degree of sophistication of specific syntactic structures.

## **CHAPTER II**

### **LITERATURE REVIEW**

#### **2.1 Lexical Richness**

The measurement of lexical richness makes an attempt to gauge the level to which a mass and different vocabulary is used in spoken or written texts. Laufer & Nation (1995) proposed four basic aspects which aim to measure Lexical Richness. They are Lexical Originality (LO) which focuses on vocabulary that only appears at certain level and does not appear at other levels in a group, Lexical Density (LD) that concerns in the lexical words' proportion in the data, Lexical Sophistication (LS) that focuses on the calculation analysis in the use of advanced words in the data, and the last is Lexical Variation (LV) which involve the occurrences of various different lexical words emerged in the data.

This Lexical Richness concept has been used by Vermeer in 2000. In her research, she discussed the reliability and validity of different measurement in various language data research of lexical richness and computational simulations. She examined the behavior of lexical richness measures in spontaneous speech data of children's L1 and L2 while learning Dutch. Then, she found that either validity or reliability were not satisfactory, particularly the widely applied Type-Token Ratio. She concluded that a more effective measurement of lexical richness does not depend on the distribution or relationship between types and tokens, but rather on the level of difficulty of the word used. The example is in the measurement of frequency levels in everyday language input.

### 2.1.1 Lexical Originality

According to Silva & Matsuda (2000), Lexical Originality or Lexical Individuality refers to the calculation by dividing the number of tokens unique to a writer by the total number of tokens. This measure deals with an individual writer in relationship to a group. Moreover, Laufer and Nation (1995) provided an understanding about the definition of Lexical Originality (LO) as the calculation of lexical richness, which means concerning in the measurement between the written composition and the learner's performance relative to the group. In this case, there is a deep relationship between two variables called the group and the index. If the number of the group progressively changes, the number of index will be affected as well.

This technique presents information about the use of individual vocabulary with respect to fellow creatures. Such measurement is valuable yet it cannot remain solitary because it varied crosswise over various arrangements of an individual or it would change in line with the group changes. This can only be determined by adding the unique words number associated with one exam paper of SBMPTN that will be further divided by total token numbers. The token number is "the total number of word forms, which means any word occurring more than once in the text is calculated each time is used".

$$LO = \frac{\text{Unique words number associated with one exam paper}}{\text{Total number of tokens}} \times 100$$

This measurement has been used by Cooper (1993) who found that a high value on lexical originality means that the writer makes use of words which available only to speakers with between 18.000 and 24.000 lexis in terms of the tests to measure vocabulary. In his research, Cooper (1993) indicated that history guide and the 'A' history script have the highest number of 'original' lexemes occurred. Hence, LO should reflect the learners' level of vocabulary.

### **2.1.2. Lexical Density**

Johansson (2008) underlines that Lexical Density (LD) is the term that is ordinarily used to depict the content word proportions (nouns, verbs, adjectives, adverbs) that connects to the total number of words. Halliday (1985) mentioned that lexical item is part of an open set, which can be opposed with a number of items in the world. Group of lexical items are nouns, verbs, adjectives, and adverbs. On the contrary, grammatical item enters into a closed system that the (word) classes belonging to it have a static set of items, which cannot be inserted by new members.

The example of grammatical items are determiners, pronouns, prepositions, conjunctions, numerals, and auxiliary verbs. Another example is in the sentence *the man who drove this car has a good skill*. Based on Halliday's concept of lexical and grammatical items, this sentence has six lexical items (*man, drove, car, has, good, skill*). Meanwhile, grammatical item in that sentence are *the, who, this, and a*. The calculation of lexical density can be figured out by measuring the lexical item ratio to the total word number in learner's writing. Lu (2012) then defined that the measurement of lexical item ratio to the number of total words in learner's writing as Lexical Complexity Analyzer (LCA).

Lu (2012) suggested that Lexical Complexity Analyzer (LCA) is a device for measuring the occurrences of lexical complexity of EFL/ESL learners' composition which is ordinarily used by EFL/ESL researchers or teachers. The standard categorization procedure in using LCA has been set by Lu (2012) which presents in table 2.1.

**Table 2.1 Lexical item or Content words (Lu, 2012)**

Lexical item or Content words
<ul style="list-style-type: none"> <li>▪ nouns</li> <li>▪ adjectives</li> <li>▪ verbs (excluding modals, auxiliaries 'be' and 'have')</li> <li>▪ adverbs with and adjectival base, including: <ul style="list-style-type: none"> <li>○ those that can function as both an adjective and adverb (e.g. fast)</li> <li>○ those that were constructed by adding the -ly suffix to an adjectival root (e. g. particularly)</li> </ul> </li> </ul>

The term **noun** can be traced back to class of words in which occur the names of most persons, places, and things (Haspelmath, 2001) such as *doctor*, *school*, or *book*. Another example is in *Fiona drinks a cup of coffee every morning*. In this sentence, nouns that are found: *Fiona*, *cup*, and *coffee*. In several languages, it is simple to figure out nouns which do not refer to persons, places, or things (e.g. *word*, *power*, *war*). Noun is usually characterized by number (singular, plural, dual), case (e.g., nominative, accusative, ergative, dative), and possessor person/number ('my', 'her', 'our', 'their', 'his', 'your' and so on.)

- a. Number. Khanty (Western Siberia) *xot* ‘house,’ *xot-yyn* ‘two houses’ (dual), *xot-yt* ‘houses’ (plural).
- b. Case. Classical Arabic *al-kitaab-u* ‘the book’ (nominative), *al-kitaab-i* ‘the book’s’ (genitive), *al-kitaab-a* ‘the book (accusative.)’
- c. Possessor person/number. Somali *xoolah-ayga* ‘my herd,’ *xoolah-aaga* ‘your herd,’ *xoleh-eeda* ‘her herd,’ *xooli-hiisa* ‘his herd,’ etc.

**Adjectives** usually appear as nominal modifiers without additional coding such as *a beautiful girl* or *an old picture*. In these examples, *beautiful* and *old* is adjectives. Furthermore, adjectives have affixes which denote comparison (equative degree, comparative degree, and also superlative degree), and in a few languages, adjectives are inflected with the noun they modify for agreement. The examples of adjective constructions are as follows:

- a. Comparison. Latin *audax* ‘brave,’ *audac-ior* ‘braver’ (comparative), *audac-issimus* ‘bravest’ (superlative).
- b. Comparison. Tagalog (Philippines) *mahal* ‘expensive;’ *sing-mahal* ‘as expensive as.’
- c. Agreement. Hindi *accha* ‘good’ (masculine singular), *acchee* (masculine plural), *acchii* (feminine singular/plural).

Haspelmath (2001) also defines **Verbs** as inferring ‘actions and processes’ (e.g., *drink*, *walk*, *grow*, etc.). However, there are verbs that do not infer action or processes (e.g., *think*, *lack*, *happen*). In several languages, verbs have affixes which indicate tense (present, future, past), aspect (progressive, perfective, imperfective), mood (imperative, subjunctive, optative, indicative), polarity (negative or

affirmative), valence-changing operations (passive causative), and the person/number of subject and object. Some example of verbs are as follows:

- a. Tense. Panyjima (Australia) *wiya-lku* ‘sees,’ *wiya-larta* ‘will see,’ *wiya-rna* ‘saw.’
- b. Subject person/number. Hungarian *lát-ok* ‘I see,’ *lát-sz* ‘you see,’ *lát* ‘s/he sees.’
- c. Valence-changing. Turkish *unut-* ‘forget,’ *unut-ul-* ‘be forgotten’ (passive), *unut-tur* ‘make forget’ (causative).
- d. Spatial orientation. Russian *vy-letat* ‘fly out,’ *v- letat* ‘fly in,’ *pere-letat* ‘fly over,’ *vz-letat* ‘fly up.’

**Adverb** is part of speech which can be added to a verb to modify its meaning. In addition, adverb can also modify adjectives or other adverbs. Adverb marks when, where, how, in what manner or to what extent an action is performed. Many of adverbs end with ‘ly’, yet not all of adverbs end with ‘ly’. Example of adverbs is in the sentence below:

*She performed the musical drama beautifully.*

In the example above, *beautifully* is the adverb because it explained in what manner or how she performs her musical drama. Another examples of adverb are *cheerfully*, *briskly*, *wickedly*, *delicately*, *loudly*, *later*, *everywhere*, *today*, *tomorrow*, *here*, *anywhere*, and etc.

### 2.1.3 Lexical Sophistication

In addition to Lexical Originality and Lexical Density, we also have Lexical Sophistication which is considered as the third basic aspect to measure Lexical

Richness. Some scholars named Lexical Sophistication term as lexical rareness. Palfreyman & Karaki (2017) defines Lexical Sophistication as the using of more 'basic' or more 'advanced' vocabulary. 'Basic' vocabulary, in this case, refers to words that have high frequency in the language, developed on the basis of independent corpora which is larger than language, even though it has been using other criteria.

Tonkyn (2012) further stated that only Lexical Sophistication (the number of low-frequency types used) and not any of the different measurement used, could recognize lexical complexity increasing in learners' spoken production. It means, LS can be used as indicator of learners' lexical development.

To measure LS, Laufer and Nation (1995) propositioned a tool called Lexical Frequency Profile (LFP). The LFP presents the different words percentage in a text from each of four bands of (corpus-defined) frequency: the top 1000 'word families' (involving inflection and derivation) (K1); 1000 most frequent families (K2); Academic Word Lists (AWL) by Coxhead (2000); the last one is ('off-list') words in the text that are not included into these bands are considered to be lower frequency.

Three different groups of words are proposed by Schmitt & Schmitt (2013): high-frequency words consisted 3000 band words, mid-frequency words involved 3000 – 9000 band words, and low-frequency words which contains the band words more than 9000. In this study, the LS of the data will be measured by using Vocabprofiler which was arranged by Cobb (n.d).



In present study, Lexical Sophistication is related to the use of academic words. Averil Coxhead developed The Academic Word List (AWL) which consists of 570 field of semantic that were further chosen as they exist with large frequency in a great scale of academic texts. Many words are specific included into academic texts because the lists do not involve words which are in the most frequent 2000 words of English (General Service List).

According to Coxhead (2000,2011) in Hajiyeva (2015), the AWL word forms account for 10% of the tokens in the Academic Corpus (representative texts from the academic domain). A study conducted by Hajiyeva (2015) on subject specific university textbook for English major reveals only a small coverage of AWL, i.e. 6.5%. This means that the coverage of academic words in university textbook can be between 6.5% to 10%.

In contrast to the Academic Corpus, the AWL word forms account for approximately 1.4% of the tokens in the fiction collection (a collection of non-academic texts). This suggests that the majority of the word families in the AWL occur with higher frequency in academic texts than in fiction books. All in all, the AWL which includes 570 word families – regardless of subject area – constitutes a specialized vocabulary with good coverage of academic texts. Many studies show that the percentage of the AWL vocabulary varies from study to study. For example:

- AWL words constitute 2.1% of the tokens in an ELT course book for upper-intermediate students;
- 5.44% of the tokens in General English (GE) textbook;
- 5.98% of the tokens in science-specific middle school textbooks;

- 9.06% of the tokens in agriculture research articles;
- 10.7% of the tokens in the medical research articles.

Based on the previous researches dealing with AWL, it can be concluded that a text is considered as academic if the percent of AWL token is 9% or more than it. In this case, the English text of SBMPTN test ought to be designed as the academic text because it is going to be materials prepared for the student who are about get in to the college. If it is already fulfilled the criteria to be recognized as academic text, it is proper to be tested for graduated student from senior high school. On the other hand, if the percent token of the text is less than 9%, it need to be renewed for the better quality for the next year.

#### **2.1.4 Lexical Variation**

The last aspect of the measurement of lexical richness is lexical variation. Some scholars called lexical variation as Lexical Diversity. According to McCarthy & Jarvis (2013) and Yu (2010), lexical variation is one of the aspect used in lexical richness to measure the scale of a learner's vocabulary as depicted on how he or she uses the language. In the lexical variation, it will deal with the measurement of Type Token Ratio (TTR). TTR concern with the ratio of types (various word used in the learners' texts) to tokens (the total word numbers).

The type in this case means the total number of different word forms which are used in the text automatically as long as the same word forms appeared more than once, they will be considered as one occurrence respectively. On the other hand, the tokens denote to the total number of word forms. In other word, the measurement of this item can be done by calculating all of the individual words that

appeared more than once in the text. For example, if there is a sentence like *the rose is red and the violet is purple*, therefore, this sentence has 9 tokens (*the, rose, is, red, and, the, violet, is, purple*) and 7 types (*the, rose, is, red, and, violet, purple*).

Type-Token Ratio (TTR) is probably the most widely known to quantify lexical richness. For instance, the research of TTR was conducted by Litvinova, et al. in (2017). They examined the differences of TTR and part of speech (POS) frequencies in men and women texts in Russia. The data were collected from a text corpus named Russian Gender Imitation Corpus. The result shows that there are differences between men and women texts in a number of morphological indices and the level of TTR.

## **2.2 Syntactic Complexity**

Syntactic complexity is achieved in terms of how different and sophisticated the production of units or grammatical structures are in second language composition (Foster & Skehan 1996, Ortega 2003, Wolfe-Quintero et al. 1998). The syntactic complexity development is a crucial aspect of second language learner's global development in the target language. Various numbers of measurement have been suggested to characterize syntactic complexity in second language composition.

Ortega (2003) mentioned these measurements aim to calculate one of the following aspects: length or production units (i.e. clauses, sentences, and T-units) amount of embedding or subordination, amount of coordination, range of surface syntactic structures, and degree of sophistication of specific syntactic structures. A

basic question that is widely tried by second language development studies is the extent to which many syntactic complexities are valid measures and can be used as a reference for the development of second language students or global abilities in the target language.

Some previous studies conducted in the relation of syntactic complexity. One of them is written by Arya in 2011. In her study, she observed the influence of syntactic and lexical complexity on science textbook toward the third-grade students' comprehension of it. A Latin-square design was utilized to compensate the order of administration of the 16 texts provided. The finding shows that lexical complexity provides a substantial effect on students' understanding in the text. Comprehension performance was not affected by the syntactic complexity of texts, regardless of topic. In addition, no additional effects were found for English language learners.

To measure syntactic complexity in a text, Lu (2010) proposed 14 syntactic complexity measures with the L2 Syntactic Complexity Analyzer. The 14 syntactic complexity measure is presented as follows:

**Table 2.2 Syntactic Complexity Measures by Lu (2010)**

Measure	Code	Definition
<b>Length of production unit</b>		
Mean length of clause	MLC	#of words/# of clauses
Mean length of sentence	MLS	#of words/# of sentence
Mean length of T-unit	MLT	#of words/# of T-units
<b>Amount of subordination</b>		
Clauses per T-unit	C/T	#of clauses/# of T-unit

Complex T-units per T-unit	CT/T	#of complex T-units/# of T-units
Dependent clauses per clause	DC/C	#of dependent clauses/# of clauses
Dependent clauses per T-unit	DC/T	#of dependent clauses/# of T-units

**Amount of coordination**

Coordinate phrases per clause	CP/C	#of coordinate phrase/# of clauses
Coordinate phrases per T-unit	CP/T	#of coordinate phrases/# of T-units
T-units per sentence	T/S	#of T-units/# of sentences

**Degree of phrasal sophistication**

Complex nominal per clause	CN/C	#of complex nominal/# of clauses
Complex nominal per T-units	CN/T	#of complex nominal/# of T-units
Verb phrases per T-unit	VP/T	#of verb phrases/# of T-units

**Overall sentence complexity**

Clauses per sentence	C/S	#of clauses/# of sentences
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Hunt (1965) & Tapia (1993) in Lu (2010) defined a sentence as a set of words demarcated with one punctuation mark which indicate the ending of a sentence such as question mark, period, exclamation mark, ellipsis, or quotation mark. The example of sentence is *I looked for Jane and Corinth at the train station.* The sentence above begins with *I* as the subject, *looked for* as the predicate, and ended with period. Grammatically, sentences have four types: simple sentence, compound sentence, complex sentence, and complex-compound sentence.

Hunt (1965) & Polio (1997) in Lu (2010) defined a clause is a structure followed by a subject and a finite verb involving independent clauses, adjective clauses, adverbial clauses, and nominal clauses. In addition, some scholars mentioned that clause is a sub-unit of sentence which contains a subject and a

predicate. A subject indicates the topic of sentence including a noun, or a phrase or clause acting as a noun. Meanwhile, predicate comments on the topic including verbs or Tobe. Types of clause is Noun Clause, Adjective Clause, Adverbial Clause, Dependent Clause, and Independent Clause.

In 1965, Hunt was the first of many investigators to demonstrate the definition of T-unit (the minimal terminable T-unit). He observed that T-unit is an addition of main clause to all subordinate clauses and non-clausal structures that exist or appear in it. Grammatically, each of them could be ended with a capital letter (at one end), and a period (at the other). For example, a simple or complex sentence includes one T-unit, while a compound sentence contains more than one T-unit. The following example is proposed by Gaies (1980):

*This man will get the job done./I've known him for a long time,/so I am confident we can rely on him.*

(3 T-units; mean T-unit length (words/T-unit) = 8.00)

*This man, whom I've known for a long time and whom I feel confident we can rely upon, will get the job done.*

(1 T-unit; mean T-unit length = 24.00)

Subordination and coordination are crucial concept to comprehend since they are utilized to connect two independent clauses for summing up writing or to separate two independent clauses and produce a dependent clause in order to establish cause and effect between two ideas. Subordination needs relative pronouns or subordinating conjunctions to change independent clauses (main clauses or ideas) into dependent clauses (ideas or subordinate clauses). The

examples of subordinating conjunction are *although, since, while, after, before, that, etc.*

Coordination utilizes coordinating conjunctions, conjunctive adverbs (with appropriate punctuation), or punctuation to merge short independent clauses into a single sentence. Coordinating conjunctions are FANBOYS (*for, and, nor, but, or, yet, and so*). Conjunctive adverbs are applied to show contrast, sequence, cause effect, and other relationship. The examples of conjunctive adverbs are *however, accordingly, furthermore, besides, finally, also, nonetheless, etc.*

Phrase is a group of word in a sentence which complement the whole structure of sentence. A phrase cannot stand alone to represent complete meaning since a phrase lacks both the subject and the object. A phrase can be a noun, an adjective, a preposition or an adverb. The function of phrase depends on its construction and place in a sentence. Regarded this function, phrase can be divided into nominal phrase and verb phrase.

Nominal phrase is a phrase which serves as noun in a sentence. It consists a noun and other associated words (usually determiners and modifiers) which modify the noun. A nominal phrase covers a noun as a head word and other related words (determiners and modifiers) can appear before or after the noun. For example: *My grandfather has an old round dining table*. In this sentence, *an old round dining table* is the nominal phrase which serves as the object. Another example is in the sentence *A woman at the corner looks so pale*. In this sentence, *a woman at the corner* is the nominal phrase that serves as the subject.

On the other hand, a verb phrase refers to a group of main verbs and helping-verbs (auxiliaries) within a sentence. Helping verbs involve forms of *be*, such as *am, is are, was, were, been* and *being*; forms of *have*, such as *has* and *had*; forms of *do*, such as *does* and *did*; forms of *can*, such as *could, will, would, and shall*; and forms of *should*, such as *may, might, and must*. A verb phrase related to tense that is used in a sentence. For instance, *Gaby has been waiting for more than two hours*. In that sentence, *has been waiting* acts as a predicate which consists of a verb phrase. The main verb is the word *waiting* whereas *has* and *been* is helping verbs to emphasize structure of present perfect tense.

The measurement of syntactic complexity has been used by Lu & Ai in 2015. They explored the modification of syntactic complexity in English writing college-level writers with distinctive background of first language (L1). The essays of college-level writers were examined by using 14 syntactic complexity calculation by using L2 Syntactic Complexity Analyzer proposed by Lu (2010). The study found significant differences occurred in the native speaker group and one or more nonnative speaker groups in all 14 calculations. In addition, the nonnative speaker groups suggested drastically many patterns of difference from the native speaker group.

### **2.3 Review of related studies**

There are several studies related to this thesis. The study was divided into two groups. The first group consists of researches that only discuss lexical richness. While the second group only discussed syntactic complexity. There are at least three



studies that are closely connected to either lexical richness or syntactic complexity, respectively.

The study concerning lexical richness was conducted by Šišková in 2012. She compared different measurement of lexical richness in narrative writings compiled by EFL learners from Czech. She focused on lexical richness calculation including lexical diversity, lexical sophistication, and lexical density. The result shows that the three groups arrived at a different level. These results not only measure various types of vocabulary but also find relationships including: the strongest correlations are between measures of lexical sophistication and diversity; measures of lexical diversity and density are weakly correlated, and there are no significant correlations between the measurement of lexical sophistication and density.

Four years later, in 2016, Djiwandono held a research to compare the lexical richness in students' academic papers and lecturers' academic papers by using type-token ratio (TTR). The academic essay papers which were composed by the respondents were attached to a website for profiling the vocabulary (<http://www.lexutor.ca/vp>). The result shows that the TTR and academic words of the lecturers are better yet they wrote marginally fewer 2000-word level and off-list words compared to their students. He also found that the differences in TTR and academic words are significant while the differences in the use of 2000-word level and off-list are not significant.

The newest research about lexical richness was held by Astridya in 2018. She investigated the lexical richness of senior high school students' writing on

expository essay. The students consisted three group grade which is from grade 10 to 12. The measurement focused on three based types of lexical richness which are lexical density, lexical sophistication, and lexical variation. The result revealed a significant increase in every class beginning from grade 10 to 12. Based on all of three calculations, the highest number among others is in grade 12. It suggested that the well prepared and richest lexical is in grade 12 if it compared with grade 10 and 11 students.

Furthermore, several numbers of research about syntactic complexity was also held by scholars. One of them is the research of Sotillo in 2000. She analyzed discourse functions and syntactic complexity in ESL learner production gained by two distinct modes of computer-mediated communication (CMC): asynchronous and synchronous discussions. This study involved two instructors and twenty-five students from two advanced ESL writing classes. The findings revealed that the numbers and types of discourse functions demonstrated in synchronous discussions were same as the types of interactional modifications found in face-to-face conversations.

The research about syntactic complexity was also written by Beers & Nagy in 2007. They examined the relationship of different measures of syntactic complexity with rated quality for two genre of text produced by middle school students. Forty-one students from seventh and eighth grade was taken as participant in this study. They asked to compose a persuasive and narrative essays. Text was rated for coded and quality for syntactic features including words per clause and clauses per T-unit. The correlation between syntactic complexity and text quality

were further figured out to be dependent both on the genre of the text, and the calculation of syntactic complexity used.

Another same study was written by Ortega in 2015. She identified four themes which arose from the contribution of each study concerning syntactic complexity in L2 writing. She came up with two domain questions that are what scholars recognize in syntactic complexity grows and what the best measurement of syntactic complexity is. The result concluded that much development has been completed in what is already known, methodologically and substantively. Moreover, the appearing insights are what the scholars can look forward to in some expansion areas which are close to the domain.

## CHAPTER III

### METHODS OF THE STUDY

#### 3.1 Research Approach

This study used quantitative approach. According to Leedy (1993), quantitative research method was research methods concerning with numbers and anything that was measurable in a systematic way of investigation of phenomena and their correlation. Quantitative research method was used to answer on relationships within measurable variables in order to explain, predict and control a phenomenon. The quantitative approach was chosen in this study to evaluate the effectiveness of lexical richness and syntactic complexity in the English exam papers of SBMPTN for the last ten years (2009-2018).

In present study, quantitative approach was suitable to apply since it used measurable data to construct facts and reveal patterns in research. In addition, to measure lexical richness which was divided into four major aspects (lexical originality, lexical density, lexical sophistication, and lexical variation) and syntactic complexity, various tools including corpus measurement was utilized in this study. A corpus (the plural is corpora) was a set of texts in computer-readable form. It may consist of either written texts or transcriptions of spoken material (Wray & Bloomer, 2012).

### 3.2 Source of Data

The source of data in this study was the exam papers of SBMPTN. SBMPTN (*Seleksi Bersama Masuk Perguruan Tinggi Negeri*) was the national university entrance test that must be followed by graduated students from tertiary school (grade 12) who intend to continue their study into higher education in Indonesia. There were three groups of examination on the SBMPTN namely *Saintek* (Natural Science), *Sosial dan Humaniora* (Social Science) and mixed (both Natural and Social Science). Each group of examination included Ability and Academic Potential Test (TKPA) consisting Verbal, Numerical, Figural, Basic Mathematics, Indonesian and English Proficiency Test.

The researcher only took English exam papers since the subject that was being analyzed was English. The range of English exam papers of SBMPTN taken was from 2009 to 2018. The writer contemplated that it was important to assemble the data from SBMPTN exam papers in the last ten years as the consideration in arranging the next English SBMPTN exam papers. In addition, before 2009, the English exam papers of SBMPTN (some of them were called UMPTN and SPMB), consist of grammar and reading. However, from 2009, they only consist of reading texts. Hence, the grammar section was included into reading texts. The fundamental reason in choosing this sample was because the writer was eager to examine the feasibility and level of difficulty of SBMPTN exam papers particularly English subject in the form of lexical richness and syntactic complexity. SBMPTN exam papers were compiled by a team dedicated to create and select questions that will be included in this national university entrance test.

This study would be focused only on the English exam papers in SBMPTN which consists of reading passage. Each English exam paper contained 15 questions for approximately 3 - 4 reading texts every years. The reading text of both Natural Science and Social Science is actually the same. They only differ in the number placement. Hence, the reading texts that are tested to student both Natural or Social Science have the same text. The topic of reading text could be varied such as health, socio-history, natural phenomenon, technology, and so forth. In this case, for sure, the test takers had to comprehend critical mass of English information involving understanding the meaning of the unidentified word in the text, identifying the structure of argument, and distinguishing any construction of idiom.

The data taken from English exam papers of SBMPTN consisted of ten papers. The total words of SBMPTN exam papers could be seen from the number of tokens in each year. The number of token of for the last ten years from 2009 until 2018 is (2009 = 1.781 words), (2010 = 1.780 words), (2011 = 1.821 words), (2012 = 1.734 words), (2013 = 1.776 words), (2014 = 1.837 words), (2015 = 1.763 words), (2016 = 2.298 words), (2017 = 2.289 words), (2018 = 2.256 words). The total word of SBMPTN exam papers from 2009 up to 2018 is 19.335 words.

### **3.3 Methods of Data Collection**

There were three steps to collect the data in this study. **First**, the writer downloaded ten SBMPTN exam papers start from 2009 up 2018 in the website *www.zenius.net*. The website was an online learning application developed by PT. Zenius Education for students from elementary to high school level. The content of

the website consists of theories and exercises of any subjects. There was also lesson videos for those who need more explanation about particular subjects. However, some contents in this website could be accessed for free and some others must be paid. The writer took the data from this website because the official website from government regarding SBMPTN only provided information provisions related to SBMPTN, not SBMPTN exam papers.

**Secondly**, after downloading the files was converted them into the form of TXT since the downloaded files were still in the form of PDF. It was important to extract the files from PDF to TXT because most of corpus software are able to run the operations as long as it used supported files in the form of TXT.

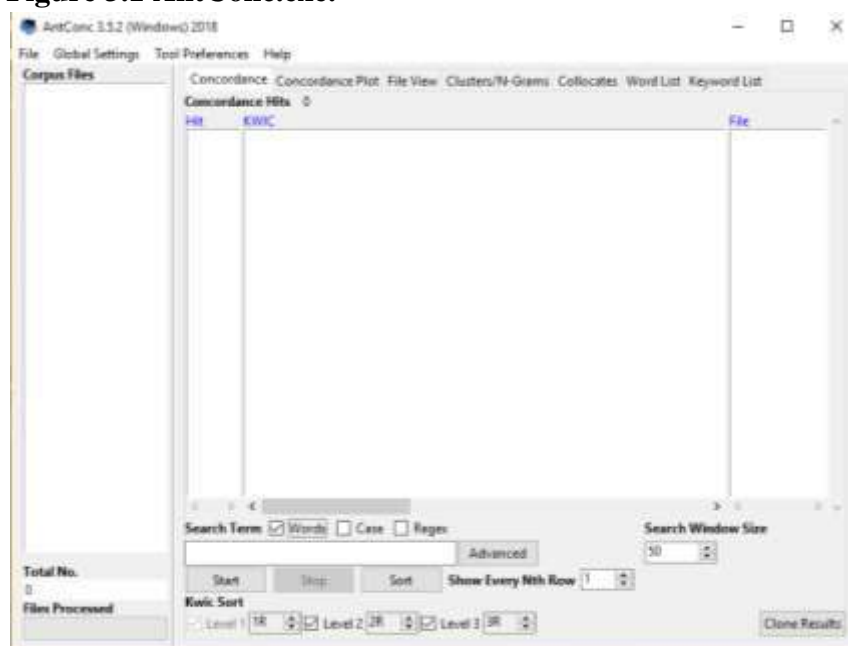
**Finally**, after getting the files in TXT format, the last step the writer did was cleaning the files. The purpose of this cleaning step is to sort and re-examine data whether they have been in English language or yet. Furthermore, the goal of this cleaning step is also to check the spelling in the text such as writing errors or alphabetical changes due to the conversion effect from PDF to TXT format. As a result, the data which would be further analyzed was purely in the form English language and there was no typographical error.

### **3.4 Methods of Data Analysis**

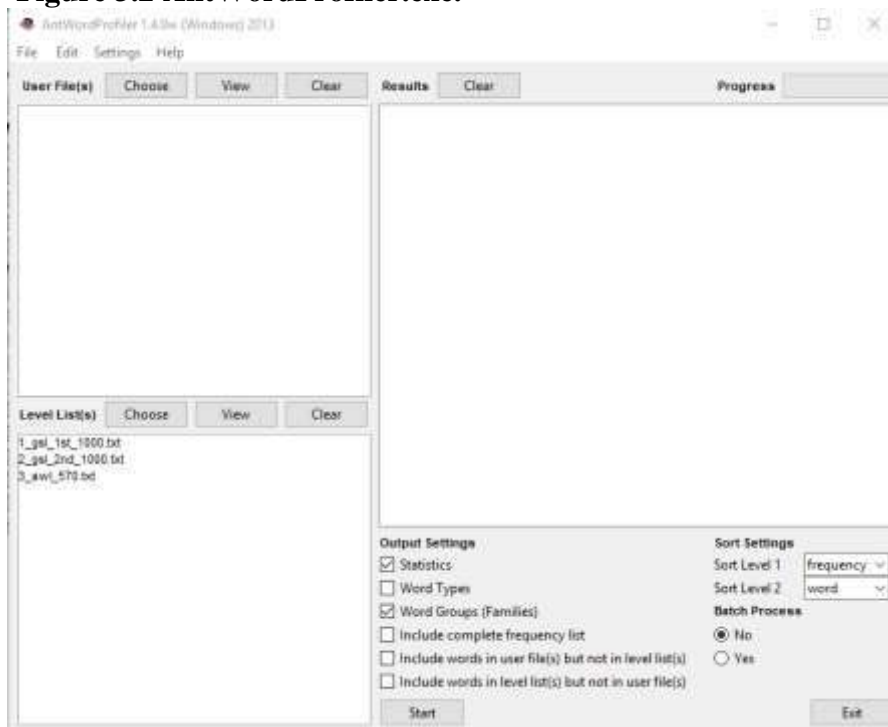
The data of this study which are SBMPTN exam papers were analyzed regarding their lexical richness and syntactic complexity. For the lexical richness, the data would be analyzed for four aspects namely Lexical Originality, Lexical Density, Lexical Sophistication, and Lexical Variation.

For the measurement of Lexical Originality, the writer calculates the percentage of unique words number associated with one exam paper divided by total number of tokens. This measurement could be obtained by applying AntConc.exe to search word lists from requested years. After that, the writer also used AntWordProfiler.exe to sort the words that exist in particular year yet do not existed in the rest of years. This method was utilized to find out which English exam papers of SBMPTN is the most original compared to other years. Actually, there were several tools for analyzing the word lists of a corpus, such as *SketchEngine* and *IMS Corpus Workbench*. However, the writer chose to apply AntConc and Antword Profiler because they were free and could be used anytime. Moreover, according to Dr. Lawrence Anthony, the founder of AntConc, mentioned that this program has a very good user-interface and easy to learn. They are widely used for the processing of raw corpus at both the beginner as well as advanced level (Prihantoro, 2016:63)

**Figure 3.1 AntConc.exe.**





**Figure 3.2 AntWordProfiler.exe.**

Next, for analyzing Lexical Density which focuses on group of part of speech including nouns, verbs, adjectives, and adverbs, the writer used Claws Tagger. Actually, there are many tools for analyzing part of speech in a text such as AntTag, Textanz, Treetagger, etc. The reason of why the writer used Claws Tagger was due to its effectiveness and practicality. This tool was previously use by several researchers like in the study of Weisser (2018) and Khoja, et al (2001). By entering the data into the software, the writer would obtain the sort of content words that had been grouped based on their part of speech. Figure 3.3 displays the front page of Claws Tagger.

**Figure 3.3 Claws Tagger**

Furthermore, to figure out Lexical Sophistication, the writer applied VocabProfiler. Moreover, the writer also utilized VocabProfiler to discover Type Token Ratio (TTR) which is included into the measurement of Lexical Variation or Lexical Diversity. The English profilers on VocabProfiler are based on Laufer, Nation, and Coxhead's Lexical Frequency Profiler (LFP), which divided the words of texts into 1 and 2 thousand (k) levels, academic words, and the remainder or 'offlist,' or on the many corpus-based frameworks that have been developed since. VocabProfiler is used for many research and teaching purposes, like rough-tuning text to learner via Frequency Based Tests. (Cobb.) There were several researchers who used this tools for their study such as Astridya (2018) and Abduh & Rosmaladewi (2017). The figure below represents the front page of VocabProfiler software.

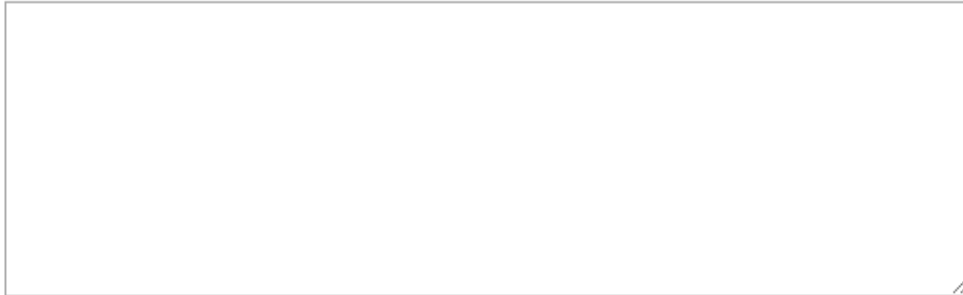
Figure 3.4 VocabProfiler



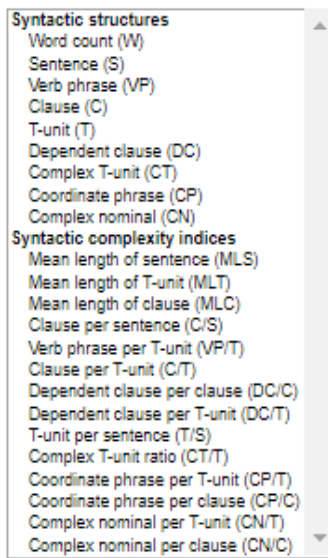
After that, to measure syntactic complexity, the writer used L2 Syntactic Complexity Analyzer (L2SCA). The writer chose to use L2SCA because this tools were generally used by several researchers such as Lu & Ai (2010) and Dewi (2018). Finally, after having the calculation result of each aspect of lexical richness and syntactic complexity, the writer interpreted the finding to present further explanation of lexical richness and syntactic complexity of SBMPTN exam papers.

**Figure 3.5 Syntactic Complexity Analyzer**

Step 2: Enter text #2 (Optional)



Step 3: Select measure(s)



Syntactic structures

- Word count (W)
- Sentence (S)
- Verb phrase (VP)
- Clause (C)
- T-unit (T)
- Dependent clause (DC)
- Complex T-unit (CT)
- Coordinate phrase (CP)
- Complex nominal (CN)

Syntactic complexity indices

- Mean length of sentence (MLS)
- Mean length of T-unit (MLT)
- Mean length of clause (MLC)
- Clause per sentence (C/S)
- Verb phrase per T-unit (VP/T)
- Clause per T-unit (C/T)
- Dependent clause per clause (DC/C)
- Dependent clause per T-unit (DC/T)
- T-unit per sentence (T/S)
- Complex T-unit ratio (CT/T)
- Coordinate phrase per T-unit (CP/T)
- Coordinate phrase per clause (CP/C)
- Complex nominal per T-unit (CN/T)
- Complex nominal per clause (CN/C)

*Tip: Press CTRL or SHIFT to select multiple measures.*

Analyze

## **CHAPTER IV**

### **RESULT AND DISCUSSION**

#### **4.1. Lexical Richness Analysis**

The analysis of the lexical richness in this sub-chapter is based on Laufer & Nation (1995) who proposed four basic aspects which aim to measure Lexical Richness. They are Lexical Originality (LO) which focuses on vocabulary that only appears at certain level and does not appear at other levels in a group, Lexical Density (LD) that concerns in the lexical words' proportion in the data, Lexical Sophistication (LS) that focuses on the use of advanced words in the data, and the last is Lexical Variation (LV) which involves the occurrences of various different lexical words emerged in the data. The four analysis of Lexical Richness in the English exam papers of SBMPTN will be further explained below.

##### **4.1.1. Lexical Originality Analysis**

According to Laufer and Nation (1995), Lexical Originality (LO) concerns with the measurement between the written composition and the learner's performance relative to the group. In this case, there is a strong relationship between two variables called the group and the index. If the number of the group progressively changes, the number of index will be affected as well. In other word, Lexical Originality could reflect the learner's level of vocabularies compared to other learners in the same produced text, in this case is English exam papers of

SBMPTN. In this measurement, the writer eagers to find out which English exam papers is the most original from 2009 to 2018.

**Table 4.1 Statistic of Lexical Originality in 2009**

Statistics					
LEVEL	FILE	TOKEN	CUMTOKEN%	TYPE	CUMTYPE%
1	WORDLIST MINUS 2009.txt	1577	85.61	430	69.81
0	-	265	100	<b>186</b>	100
TOTAL:		1842		616	

Table 4.1 shows the statistic of Lexical Originality result in 2009. The table presents Level 1 which consists of the wordlist of all years (2010 - 2018) without 2009. While level 0 represents the wordlists that only appears in 2009 but does not exist in the rest of years. Token is the total number of word forms, which means any word occurring more than once in the text is calculated each time is used. Furthermore, type is total number of different word forms which are used in the text automatically as long as the same word forms appeared more than once, they will be considered as one occurrence respectively.

Cumtoken stands for cumulative token which is obtained by dividing the number of tokens in Level 1 with the total number of tokens. The result is further multiplied by 100. While Cumtype is short for cumulative type which is the achieved by dividing the number of types in Level 1 with the total number of types. The result is then multiplied by 100. Since Lexical Originality is seen from the type of each text, so the lexical originality value of English exam papers of SBMPTN in 2009 is **186** words. It means, there are 186 words which exist in the English exam papers of SBMPTN in 2009 but does not appear in the other years.

**Table 4.2 Statistic of Lexical Originality in 2010**

Statistics					
LEVEL	FILE	TOKEN	CUMTOKEN%	TYPE	CUMTYPE%
1	WORDLIST MINUS 2010.txt	1419	78.35	445	63.48
0	-	392	100	<b>256</b>	100
TOTAL:		1811		701	

Table 4.2 shows the measurement of Lexical Originality of English exam papers of SBMPTN in 2010 compared with the rest 9 years (2009 – 2018, minus 2010). Lexical Originality is represented by the number of type which is calculated by the total of not found word in Antword Profiler software (in level 0). Here, we could conclude that the ‘unique’ words appeared in 2010 which are not found in other nine years is **256** words.

**Table 4.3 Statistic of Lexical Originality in 2011**

Statistics					
LEVEL	FILE	TOKEN	CUMTOKEN%	TYPE	CUMTYPE%
1	WORDLIST MINUS 2011.txt	1422	76.45	374	63.5
0	-	438	100	<b>215</b>	100
TOTAL:		1860		589	

Table 4.3 shows the measurement of Lexical Originality of English exam papers of SBMPTN in 2011 compared with the rest 9 years (2009 – 2018, minus 2011). Lexical Originality is represented by the number of type which is calculated by the total of not found word in Antword Profiler software (in level 0). Here, we could find that the ‘unique’ words appeared in 2011 but not found in other nine years is **215** words.

**Table 4.4 Statistic of Lexical Originality in 2012**

Statistics					
LEVEL	FILE	TOKEN	CUMTOKEN%	TYPE	CUMTYPE%
1	WORDLIST MINUS 2012.txt	1418	80.52	403	64.07
0	-	343	100	<b>226</b>	100
TOTAL:		1761		629	

Table 4.4 shows the measurement of Lexical Originality of English exam papers of SBMPTN in 2012 compared with the rest 9 years (2009 – 2018, minus 2012). Lexical Originality is represented by the number of type which is calculated by the total of not found word in Antword Profiler software (in level 0). Here, we could observe that the ‘unique’ words which are not found in other nine years but appeared in 2012 is **226** words.

**Table 4.5 Statistic of Lexical Originality in 2013**

Statistics					
LEVEL	FILE	TOKEN	CUMTOKEN%	TYPE	CUMTYPE%
1	WORDLIST MINUS 2013.txt	1483	81.84	464	67.44
0	-	329	100	<b>224</b>	100
TOTAL:		1812		688	

Table 4.5 shows the measurement of Lexical Originality of English exam papers of SBMPTN in 2013 compared with the rest 9 years (2009 – 2018, minus 2013). Lexical Originality is represented by the number of type which is calculated by the total of not found word in Antword Profiler software (in level 0). Here, we could conclude that the ‘unique’ words appeared in 2013 but not found in other nine years is **224** words.



**Table 4.6 Statistic of Lexical Originality in 2014**

Statistics					
LEVEL	FILE	TOKEN	CUMTOKEN%	TYPE	CUMTYPE%
1	WORDLIST MINUS 2014.txt	1551	82.37	429	66.82
0	-	332	100	<b>213</b>	100
TOTAL:		1883		642	

Table 4.6 shows the measurement of Lexical Originality of English exam papers of SBMPTN in 2014 compared with the rest 9 years (2009 – 2018, minus 2014). Lexical Originality is represented by the number of type which is calculated by the total of not found word in Antword Profiler software (in level 0). Here, we could find that the ‘unique’ words which are not found in other nine years is **213** words.

**Table 4.7 Statistic of Lexical Originality in 2015**

Statistics					
LEVEL	FILE	TOKEN	CUMTOKEN%	TYPE	CUMTYPE%
1	WORDLIST MINUS 2015.txt	1432	81	410	64.57
0	-	336	100	<b>225</b>	100
TOTAL:		1768		635	

Table 4.7 shows the measurement of Lexical Originality of English exam papers of SBMPTN in 2015 compared with the rest 9 years (2009 – 2018, minus 2015). Lexical Originality is represented by the number of type which is calculated by the total of not found word in Antword Profiler software (in level 0). Here, we could observe that the ‘unique’ words which are not found in other nine years is **225** words.

**Table 4.8 Statistic of Lexical Originality in 2016**

Statistics					
LEVEL	FILE	TOKEN	CUMTOKEN%	TYPE	CUMTYPE%
1	WORDLIST MINUS 2016.txt	1973	84.35	470	68.31
0	-	366	100	<b>218</b>	100
TOTAL:		2339		688	

Table 4.8 shows the measurement of Lexical Originality of English exam papers of SBMPTN in 2016 compared with the rest 9 years (2009 – 2018, minus 2016). Lexical Originality is represented by the number of type which is calculated by the total of not found word in Antword Profiler software (in level 0). Here, we could find that the ‘unique’ words which are not found in other nine years is **218** words.

**Table 4.9 Statistic of Lexical Originality in 2017**

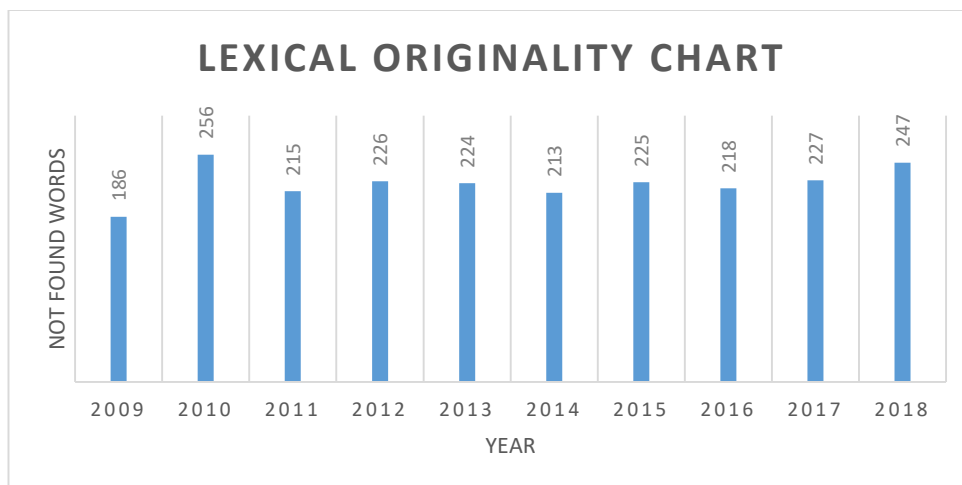
Statistics					
LEVEL	FILE	TOKEN	CUMTOKEN%	TYPE	CUMTYPE%
1	WORDLIST MINUS 2017.txt	1940	84.13	496	68.6
0	-	366	100	<b>227</b>	100
TOTAL:		2306		723	

Table 4.9 shows the measurement of Lexical Originality of English exam papers of SBMPTN in 2017 compared with the rest 9 years (2009 – 2018, minus 2017). Lexical Originality is represented by the number of type which is calculated by the total of not found word in Antword Profiler software (in level 0). Here, we could conclude that the ‘unique’ words which are not found in other nine years is **227** words.

**Table 4.10 Statistic of Lexical Originality in 2018**

Statistics					
LEVEL	FILE	TOKEN	CUMTOKEN%	TYPE	CUMTYPE%
1	WORDLIST MINUS 2018.txt	1908	83.1	492	66.58
0	-	388	100	<b>247</b>	100
TOTAL:		2296		739	

Table 4.10 shows the measurement of Lexical Originality of English exam papers of SBMPTN in 2018 compared with the rest 9 years (2009 – 2017). Lexical Originality is represented by the number of type which is calculated by the total of not found word in Antword Profiler software (in level 0). Here, we could observe that the ‘unique’ words which are not found in other nine years is **247** words.

**Figure 4.1 Lexical Originality Chart from 2009 – 2018**

As shown in figure 4.1, the lowest number of lexical originality of English exam papers of SBMPTN is in the year 2009 with 186 words which are not found in other English exam papers of SBMPTN. Meanwhile, the highest number of lexical originality is in the year 2010 followed by 256 words which are not found of the rest nine years. The highest number of lexical originality, the more original

the text compared with other same texts. It means, the most original English exam papers of SBMPTN is in the year 2010 since the not-found-words in 2010 have the most 'unique' lexical numbers compared to other years.

The result of Lexical Originality statistic was further calculated by using Chi-square formula. Chi-Square test is useful for testing relationships or the effect of two nominal variables and measures how strong relationship between one variable with other nominal variables. In this study, Chi-Square is utilized to know whether the difference of each year is significant or not. In Chi-square formula, significance level ( $p$ ) is 0.05. It is considered significant if the result shows less than 0.05. On the other hand, if the result shows more than 0.05, it is considered insignificant. In the provided statistic above, the value of Chi-square result is 0.1. Hence, it shows insignificant since it is less than 0.05. Even though the 'unique' lexical items in the last ten years are different (with the biggest different is in 2009 and 2010), the difference in term of lexical originality is not significant. It means, the arrangement of the English exam papers of SBMPTN in the term of lexical originality is stable from year to year.

#### **4.1.2 Lexical Density Analysis**

Lexical Density refers to the number of lexical words or content words divided by the total number of words. Lexical words include nouns, adjectives, verbs, and adverb. Noun refers to the subject, adjective describes more about the subject, verb explains what the subject does, and adverb tells us the way subject does particular thing. In a text, lexical words give meaning and information of what

the text tells us about. Thereby, Lexical Density is simply a measure of how informative a text is.

This is in line with definition of Lexical Density mentioned by Johansson (2008). He underlined that Lexical Density is the term that is ordinarily used to depict the content word proportions (nouns, verbs, adjectives, adverbs) that connects to the total number of words. Halliday (1985) asserted that lexical item is part of an open set, which can be opposed with a number of items in the world. Group of lexical items are nouns, verbs, adjectives, and adverbs. On the contrary, grammatical item enters into a closed system that the (word) classes belonging to it have a static set of items, which cannot be inserted by new members. Group of grammatical items are determiners, pronouns, prepositions, and conjunctions.

This study aims to measure Lexical Density which is one of the part of Lexical Richness. To measure the number of content words included in the English exam papers of SBMPTN in the last 10 years, the researcher used Claws Tagger application. After entering the data into Claws Tagger, the results are in the form of tabulation. The tabulation for each word class of English exam papers of SBMPTN is provided below. The first table provides the tabulation of Nouns.

**Table 4.11 The tabulation of Nouns**

Year Noun	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<b>NN0</b>	29	15	11	9	10	8	13	14	16	41
<b>NN1</b>	329	314	308	298	291	366	283	330	389	375
<b>NN2</b>	144	129	155	134	166	109	174	237	200	206
<b>NP0</b>	28	49	30	60	26	33	14	27	25	7
<b>Total</b>	<b>530</b>	<b>507</b>	<b>504</b>	<b>501</b>	<b>493</b>	<b>516</b>	<b>484</b>	<b>608</b>	<b>630</b>	<b>629</b>

As shown in table 4.11, the NN0 is the common noun, neutral for number (e.g. *media, people, world*). The NN1 defines as singular common noun (e.g. *education, knowledge, competency*). The NN2 is plural common noun (e.g. *policies, regulations, examinations*). While NP0 refers to proper noun (e.g. *Victoria, Columbia, British*).

From the table of nouns tabulation from 2009 – 2018 above, it can be inferred that the lowest total number of nouns is in the year 2015, meanwhile the highest total number of nouns is in 2017. The total number of nouns were further calculated with Chi-square formula. Chi-Square test is useful for testing relationships or the effect of two nominal variables and measures how strong relationship between one variable with other nominal variables.

In Chi-square formula, significance level ( $p$ ) is 0.05. It is considered significant if the result shows less than 0.05. On the other hand, if the result shows more than 0.05, it is considered insignificant. In the provided table above, the number of Chi-square result is 0.00. Hence, it shows significant since it is less than 0.05. It could be seen also from the table that distribution of nouns from 2009 up to 2018 seems inconsistent. It is said so because too many nouns appeared in 2017 with 630 nouns; while in 2015, noun has the lowest number that is 484.

According to Biber, Conrad, and Leech (2002), conversation has a high density of verbs, while informative writing (e.g. news and academic prose) has a high density of nouns. This is parallel with the result that from all of the lexical word calculated including nouns, verbs, adjective, and adverb, the highest number of lexical density is in nouns. It means, English exam papers of SBMPTN in the

last ten years has fulfilled the criteria as informative text. If we pay attention to the number of nouns from year to year, we can infer that the number of nouns in the last three years (2016-2018) occupies the highest number of noun among the previous seven years with 608, 630, 629 respectively.

This happened because probably influenced by the government policy which starts to implement exam papers based on HOTS (High Order Thinking Skills) method. According to Saputra (2016), HOTS (High Order Thinking Skills) is a process of thinking of students at a higher cognitive level developed from various concepts and cognitive methods and also learning taxonomy such as problem solving methods, bloom taxonomy, and taxonomy of learning, teaching, and assessment. These high order thinking skills include problem solving skills, creative thinking skills, critical thinking, argumentation skills, and decision making abilities.

This method, of course, will affect the difficulty level of SBMPTN exam papers especially in English paper. As we know that from the last three years, the number of nouns increased if compared with other nouns in previous years. It will affect the number of vocabularies which has to be possessed by test takers if the number of noun is increased. As the result, the English exam papers in last three years could be more difficult compared to previous years. Next, this study shows the tabulation of Adjectives found in English exam papers of SBMPTN test in the last 10 years. The result is provided in the table below.

**Table 4.12 The Tabulation of Adjectives**

Year Adj	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<b>AJ0</b>	136	165	122	129	163	135	136	199	215	230
<b>AJC</b>	6	15	13	1	4	8	11	5	4	3
<b>AJS</b>	1	0	5	3	5	7	2	2	4	5
<b>Total</b>	<b>143</b>	<b>180</b>	<b>140</b>	<b>133</b>	<b>172</b>	<b>150</b>	<b>149</b>	<b>206</b>	<b>223</b>	<b>238</b>

As shown in table 4.12, the AJ0 refers to the adjectives (general or positive) (e.g. *young, formal, athletic, clean*). The AJC is comparative adjective (e.g. *higher, better, greater, purer*). While the AJS is superlative adjective (e.g. *best, youngest, oldest, latest*).

From the table of adjectives tabulation from 2009 – 2018 above, it can be inferred that the lowest total number of adjectives is in the year 2012, meanwhile the highest total number of adjectives is in 2018. The total number of adjectives was further calculated by using Chi-square formula. The result of Chi-square test shows 0.00. This result is considered as significant since  $0.00 < 0.05$ .

If we perceive the result of adjectives above, in 2018 there is 238 adjectives while in 2012 there is only 133 adjectives. The different number of adjectives is quite large from 133 to 238 that is 105 adjectives. It is considered as inconsistent because too many adjectives in particular year while in another year, the number of adjectives is too small. In fact, it will affect the level of difficulty appeared in the text. Referring to the result, the test maker is supposed to present the text which the range number of adjectives is in the average of the result that is around 173.



Looking deeper into the given result, again, the number of adjectives in the last three years placed the highest three of all adjectives number compared to the previous years. It is the same result of nouns tabulation above. According to Biber, et al. (2002), adjectives are connected with nouns since nouns are most frequently modified by adjectives. Therefore, in informative writing like SBMPTN exam papers, which has the highest density of nouns, will have the highest density of adjectives too. Next, this study shows the tabulation of Verbs found in English exam papers of SBMPTN test in the last 10 years. The result is provided in the table below.

**Table 4.13 The Tabulation of Verbs**

Year Verb	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<b>VVB</b>	62	29	36	21	38	33	23	51	42	46
<b>VVD</b>	7	18	8	24	7	11	16	12	28	0
<b>VVG</b>	26	50	23	27	31	38	33	29	23	46
<b>VVI</b>	49	23	31	43	28	32	43	57	56	52
<b>VVN</b>	28	35	47	39	42	47	44	48	64	38
<b>VVZ</b>	12	31	39	21	26	19	34	16	31	35
<b>Total</b>	<b>184</b>	<b>186</b>	<b>184</b>	<b>175</b>	<b>172</b>	<b>180</b>	<b>193</b>	<b>213</b>	<b>244</b>	<b>217</b>

As shown in table 4.13, the VVB is the finite form of lexical verbs (e.g. *teach, provide, offer, use*) [Including the imperative and present subjunctive]. Next, VVD is the past tense form of lexical verbs (e.g. *taught, read, observed, extended*). VVG refers to the –ing form of lexical verbs (e.g. *offering, choosing, collecting, producing*). While VVI is the infinitive form of lexical verbs (e.g. *enjoy, wait, go, continue*). VVN defines the past participle form of lexical verbs (e.g. *prepared*,

*accepted, engaged, developed*). VVZ is the –s form of lexical verbs (e.g. *promises, contradicts, elaborates, disbelievers*).

The above table presents tabulation of Verbs from 2009 to 2018. Here, verbs are divided into several groups. There is finite form of lexical verbs, the past tense form of lexical verbs, the –ing form of lexical verbs, the infinitive form of lexical verbs, the past participle form of lexical verbs, the –s form of lexical verbs. As we could see from the total number of verbs, the lowest number of verbs is in the year 2013 with 172 verbs. Notwithstanding, the highest number of verbs is in 2017 with 244 verbs.

The different between the highest and the lowest number of verbs is 72. The result would further be calculated by using Chi-square and it was obtained 0.00. Since it is less than 0.05, it is considered as significant difference. It means, the difference between the highest and the lowest verbs is quite large or inconsistent because too many verbs in 2017 while the verbs in 2013 is too small.

The result also presents the increasing number in last the three years which are 213 number of verbs in 2016, 244 verbs in 2017, and 217 in 2018. This again might be influenced by the existence of new methods implemented by the government that is HOTS (High Order Thinking Skills) type of questions in English exam papers of SBMPTN. Last, this study shows the tabulation of Adverbs found in English exam papers of SBMPTN test in the last 10 years. The result is provided in the table below.

**Table 4.14 The Tabulation of Adverbs**

Year Adv	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<b>AV0</b>	70	95	63	72	86	81	67	89	86	78

As shown in table 4.14, the AV0 is general adverb (e.g. *strongly, more, apparently, effectively, really*). Different from the other lexical words which the highest number is between the last three years, the tabulation table of adverb above presents the highest number of adverb in year 2010 that is 95. Meanwhile, the lowest number of adverb is year 2011 that is 63. The different between the highest and the lowest is 32. If we calculate the result by using Chi-square, it is obtained 0.18. this result is considered as insignificant because it is more than 0.05. It means the distribution of adverb year by year is spread evenly.

Adverb is part of speech which can be added to a verb to modify its meaning. In addition, adverb can also modify adjectives or other adverbs. Adverb marks when, where, how, in what manner or to what extent an action is performed. Adverbs, on the other hand, are linked to verbs. They typically describe circumstances relating to actions, processes, and states that are denoted by verbs. So conversation and fiction writing, which have the highest density of verbs, also have the highest density of adverbs (Biber, et al. 2002).

After providing explanation of each lexical word above, the writer further calculated lexical density of English exam papers of SBMPTN in the last ten years. Lexical density is obtained by dividing the number of content words (lexical items) with the number of tokens in each papers.

**Table 4.15 Lexical Density Result**

<b>Year</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>
<b>Content Word</b>	927	968	891	881	923	927	893	1116	1183	1162
<b>Total Tokens</b>	1781	1780	1821	1734	1776	1837	1763	2298	2289	2256
<b>Lexical Density</b>	0.52	<b>0.54</b>	<b>0.49</b>	0.51	0.52	0.50	0.51	<b>0.49</b>	0.52	0.52

It can be seen from table 4.15 that the highest number of lexical density is in the year 2010 with 0.54 value. Nonetheless, the lowest number of lexical density is in the year 2011 and 2016 with 0.49 value, respectively. After obtaining the result of lexical density, the writer calculated the difference of lexical density each year by using Chi-Square formula. The result is 1. This number is regarded as insignificant for it is more than significant level which is 0.05. It means, there is no significant difference of each year in term of lexical density.

The similar study was also conducted by Astridya in 2018. She examined lexical density in expository writing created by students at grade 10, 11, and 12. In grade 12's writing, the lexical density obtained was 0.54. This value is similar if it is compared to the largest lexical density resulted from the English exam papers of SBMPTN which is also 0.54. It means, the density level of expository writing made by grade 12 students is as dense as the density level of English exam papers of SBMPTN. Therefore, the English exam papers of SBMPTN is feasible to be tested for graduated student grade 12 in terms of Lexical Density.

#### **4.1.3. Lexical Sophistication Analysis**

Lexical Sophistication is related to the use of academic words. Averil Coxhead developed the Academic Word List (AWL) which consists of 570 field of semantic that were chosen since they exist with large frequency in a great scale of academic texts. Many words are specific included into academic texts because the lists do not involve words which are in the most frequent 2000 words of English (General Service List).

Academic word lists often be connected with level of difficulty in a text, in this case is English exam papers of SBMPTN. The text is considered as academic if the percent token of academic word lists reaches out 9% or more. This means, the text is categorized as a fairly easy if the percent token is less than 9%. Nevertheless, the text will be categorized as difficult if it reaches 9% or more. This will influence the level of difficulty in the text since the higher the percent token, the more difficult text is.

This study also aims to measure Lexical Sophistication which is one of the aspect of Lexical Richness. To measure Lexical Sophistication which deals with Academic Word Lists included in the English exam papers of SBMPTN in the last 10 years, the researcher used VocabProfiler software. After entering the data into VocabProfiler, the writer arranges the results in the form of tabulation. The tabulation for each academic word lists of English exam papers of SBMPTN is provided below.

**Table 4.16 The Tabulation of Academic Word Lists in 2009**

Freq. Level	Types (%)	Tokens (%)	Cumul. Token (%)
<b>K-1 Words</b>	401 (65.95)	1404 (78.8)	78.8
<b>K-2 Words</b>	73 (12.01)	145 (8.1)	<b>86.9</b>
<b>AWL (570 fams)</b>	61 (10.03)	<b>114 (6.4)</b>	93.3
<b>Off-List:</b>	72 (11.84)	118 (6.63)	99.93
<b>Total Unrounded</b>	608 (100)	1781 (100)	=100.00

The table presents the tabulation of academic word lists in 2009 as the result of Vocabprofiler calculation. This tool counts K-1 Words, K-2 Words, AWL, Off-List, and Total Unrounded of the entered text. K-1 Words refers to the most common first thousand words found in General Service List (GSL). K-2 Words is the most common second thousand words appeared in GSL. Academic word list (AWL) is the list of words that is not appeared in GSL. Off-list refers to the words that do not exist in the other lists. Total unrounded is the rounding up from each list.

The table shows tabulation of academic word list of English exam paper of SBMPTN in 2009. As shown in table 4.16, the percent cumulative token of General Service Lists or represented by K-2 Words is 86.9%. Moreover, the result reveals the percent token of academic word lists which is 6.4%. This number is quite far to fulfil the standard of academic word list of academic text. A text will be considered as academic if the academic word list reaches 9% or above.

The proportion of academic vocabulary words in the text can be regarded as another measure of lexical complexity (Xia, Kochmar, & Briscoe, 2016). Or, in other word, the higher the percent of the academic word list, the higher the level of

difficulty in a text. Referring to this statement and percent token of the academic word list above, therefore, the English exam papers of SBMPTN in 2009 is categorized less academic or less difficult. Next, this study also shows the tabulation of academic word list of English exam paper of SBMPTN in 2010. The table is provided as follows:

**Table 4.17 The Tabulation of Academic Word Lists in 2010**

Freq. Level	Types (%)	Tokens (%)	Cumul. Token (%)
<b>K-1 Words</b>	427 (61.44)	1371 (77.0)	77.0
<b>K-2 Words</b>	58 (8.35)	91 (5.1)	<b>82.1</b>
<b>AWL (570 fams)</b>	99 (14.24)	<b>137 (7.7)</b>	89.8
<b>Off-List:</b>	110 (15.83)	181 (10.17)	99.97
<b>Total Unrounded</b>	695 (100)	1780 (100)	=100.00

As shown in table 4.17, the percent cumulative token of General Service Lists or represented by K-2 Words is 82.1%. In addition, percent token of academic word lists is 7.7%. This number of academic word list is also quite far to reach 9%. This text is provided for the students who have finished their high school to step up to college level. Hence, the number of academic word in the text is supposed to be increased in order to fulfilling the criteria to be categorized as academic text. Then, the tabulation of academic word lists of English exam papers of SBMPTN in 2011 is presented as follows:

**Table 4.18 The Tabulation of Academic Word Lists in 2011**

Freq. Level	Types (%)	Tokens (%)	Cumul. Token (%)
<b>K-1 Words</b>	369 (65.51)	1450 (79.6)	79.6
<b>K-2 Words</b>	51 (8.78)	111 (6.1)	<b>85.7</b>
<b>AWL (570 fams)</b>	72 (12.39)	<b>109 (6.0)</b>	91.7

<b>Off-List:</b>	88 (15.15)	151 ( <u>8.29</u> )	99.99
<b>Total Unrounded</b>	581 (100)	1821 (100)	=100.00

The table shows tabulation of academic word list of English exam paper of SBMPTN in 2011. As shown in table 4.18, the percent cumulative token of General Service Lists or represented by K-2 Words is 85.7%. Moreover, percent token of academic word lists is 6.0%. In order to be considered as academic text, the percent token that should be achieved is 9% or above. Therefore, this text is categorized less academic or less difficult.

Referring to this result, the SBMPTN exam maker is supposed to be increased the number of academic word list appeared in this year in order to fulfil the criteria as the academic text. Next, the result below shows the tabulation of SBMPTN exam paper especially English text in the year 2012.

**Table 4.19 The Tabulation of Academic Word Lists in 2012**

<b>Freq. Level</b>	<b>Types (%)</b>	<b>Tokens (%)</b>	<b>Cumul. Token (%)</b>
<b>K-1 Words</b>	432 (69.12)	1457 (84.0)	84.0
<b>K-2 Words</b>	59 (9.44)	93 (5.4)	<b>89.4</b>
<b>AWL (570 fams)</b>	57 (9.12)	<b>89 (5.1)</b>	94.5
<b>Off-List:</b>	76 (12.16)	95 ( <u>5.48</u> )	99.98
<b>Total Unrounded</b>	625 (100)	1734 (100)	=100.00

The table shows tabulation of academic word list of English exam paper of SBMPTN in 2012. As shown in table 4.19, the percent cumulative token of General Service Lists or represented by K-2 Words is 89.4%. Furthermore, the result reveals the percent token of academic word lists which is 5.1%. From 2009 – 2018, this result of academic word list is the smallest of all.



This number is far to fulfil the standard of academic word list of academic text because a text will be considered as academic if the academic word list reaches 9% or above. Therefore, the English exam papers of SBMPTN in 2012 is categorized less academic or less difficult. Next, this study also shows the tabulation of academic word list of English exam paper of SBMPTN in 2013. The table is provided as follows:

**Table 4.20 The Tabulation of Academic Word Lists in 2013**

Freq. Level	Types (%)	Tokens (%)	Cumul. Token (%)
<b>K-1 Words</b>	431 (62.92)	1396 (78.6)	78.6
<b>K-2 Words</b>	64 (9.34)	97 (5.5)	<b>84.1</b>
<b>AWL (570 fams)</b>	101 (14.74)	<b>150 (8.4)</b>	92.5
<b>Off-List:</b>	88 (12.85)	133 (7.49)	99.99
<b>Total Unrounded</b>	685 (100)	1776 (100)	=100.00

The table shows tabulation of academic word list of English exam paper of SBMPTN in 2013. As shown in table 4.20, the percent cumulative token of General Service Lists or represented by K-2 Words is 84.1%. Moreover, percent token of academic word lists is 8.4%. The result of academic word list shows increasing compared to the previous years. This number has closed to the percent token that should be achieved that is 9%. However, still, this text is categorized less academic or less difficult. Next, the tabulation of academic word list of English exam paper of SBMPTN in 2014 is provided as follows:

**Table 4.21 The Tabulation of Academic Word Lists in 2014**

Freq. Level	Types (%)	Tokens (%)	Cumul. Token (%)
<b>K-1 Words</b>	402 (63.41)	1476 (80.3)	80.3
<b>K-2 Words</b>	48 (7.57)	69 (3.8)	<b>84.1</b>

<b>AWL (570 fams)</b>	94 (14.83)	<b>128 (7.0)</b>	91.1
<b>Off-List:</b>	89 (14.04)	164 ( <u>8.93</u> )	100.00
<b>Total Unrounded</b>	634 (100)	1837 (100)	=100.00

The table shows tabulation of academic word list of English exam paper of SBMPTN in 2014. As shown in table 4.21, the percent cumulative token of General Service Lists or represented by K-2 Words is 84.1%. Moreover, percent token of academic word lists is 7.0%. In this year, the percent token of academic word lists has decreased again in the level of difficulty of the exam papers provided for students.

We could infer from the result that the percent token of academic word lists experienced fluctuation from year to year. Furthermore, the following table shows the tabulation of academic word list of English exam papers of SBMPTN in 2015.

**Table 4.22 The Tabulation of Academic Word Lists in 2015**

<b>Freq. Level</b>	<b>Types (%)</b>	<b>Tokens (%)</b>	<b>Cumul. Token (%)</b>
<b>K-1 Words</b>	365 (57.75)	1304 (74.0)	74.0
<b>K-2 Words</b>	55 (8.70)	97 (5.5)	<b>79.5</b>
<b>AWL (570 fams)</b>	89 (14.08)	<b>124 (7.0)</b>	86.5
<b>Off-List:</b>	122 (19.30)	238 ( <u>13.50</u> )	100.00
<b>Total Unrounded</b>	632 (100)	1763 (100)	=100.00

The table shows tabulation of academic word list of English exam paper of SBMPTN in 2015. As shown in table 4.22, the percent cumulative token of General Service Lists or represented by K-2 Words is 79.5%. In addition, percent token of academic word lists is 7.0%. The number of academic word lists is same as the

previous year which is 7.0%. Nevertheless, still, in order to be considered as academic text, the percent token that should be achieved is 9% or above.

Therefore, this text is categorized less academic or less difficult. Consequently, for this year, the English exam paper of SBMPTN and the previous years are supposed to be revised to improve the academic word list and to fulfil the level of difficulty in the appropriate level. The next table presents the tabulation of academic word lists of English exam paper of SBMPTN in 2016.

**Table 4.23 The Tabulation of Academic Word Lists in 2016**

Freq. Level	Types (%)	Tokens (%)	Cumul. Token (%)
<b>K-1 Words</b>	399 (58.50)	1742 (75.8)	75.8
<b>K-2 Words</b>	72 (10.56)	149 (6.5)	<b>82.3</b>
<b>AWL (570 fams)</b>	112 (16.42)	<b>209 (9.1)</b>	91.4
<b>Off-List:</b>	98 (14.37)	198 ( <u>8.62</u> )	100.00
<b>Total Unrounded</b>	682 (100)	2298 (100)	=100.00

As shown in table 4.23, the percent cumulative token of General Service Lists or represented by K-2 Words is 82.3%. In addition, percent token of academic word lists is 9.1%. The result of academic word list in this year has fulfilled the criteria to be regarded as academic text since it has reached 9%. The English exam papers of SBMPTN are supposed to achieve percent token of academic word list 9% because it has accomplished the right level of text difficulty. To conclude, in this year, the English exam paper of SBMPTN did not need to be revised for it has been proficient for graduated students for high school. The following table presents the tabulation of academic word list of English exam paper of SBMPTN in 2017.

**Table 4.24 The Tabulation of Academic Word Lists in 2017**

Freq. Level	Types (%)	Tokens (%)	Cumul. Token (%)
<b>K-1 Words</b>	469 (65.32)	1811 (79.1)	79.1
<b>K-2 Words</b>	68 (9.47)	156 (6.8)	<b>85.9</b>
<b>AWL (570 fams)</b>	103 (14.35)	<b>182 (8.0)</b>	93.9
<b>Off-List:</b>	77 (10.72)	140 (6.12)	100.00
<b>Total Unrounded</b>	718 (100)	2289 (100)	=100.00

As shown in table 4.24, the percent cumulative token of General Service Lists or represented by K-2 Words is 85.9%. Besides, percent token of academic word lists is 8.0%. In this result, however, the percent token of academic word list has decreased again. In fact, the percent token of academic word list in 2016 has achieved 9% which is considered as academic text.

In this year, the test maker team is supposed to improve the academic word list by presenting exam papers that has fulfilled the percent token of 9%. As the result, the English exam papers are feasible for graduated students. Finally, the following table provides the tabulation of academic word list of English exam paper of SBMPTN in 2018.

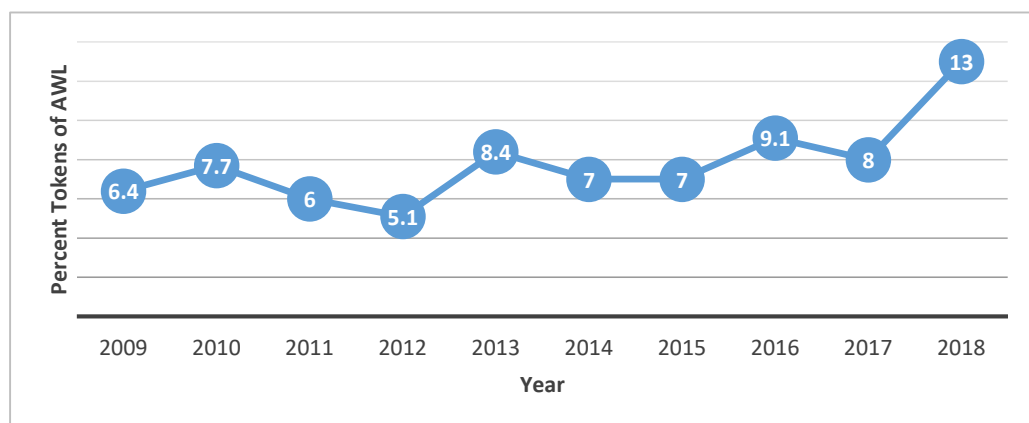
**Table 4.25 The Tabulation of Academic Word Lists in 2018**

Freq. Level	Types (%)	Tokens (%)	Cumul. Token (%)
<b>K-1 Words</b>	403 (54.90)	1603 (71.1)	71.1
<b>K-2 Words</b>	88 (11.99)	196 (8.7)	<b>79.8</b>
<b>AWL (570 fams)</b>	141 (19.21)	<b>294 (13.0)</b>	92.8
<b>Off-List:</b>	101 (13.76)	163 (7.23)	100.00
<b>Total Unrounded</b>	734 (100)	2256 (100)	=100.00

As shown in table 4.25, the percent cumulative token of General Service Lists or represented by K-2 Words is 79.8%. Furthermore, the percent token of academic word lists is 13.0%. If we pay attention to the result of academic word list percent token, it is regarded as the highest number of the last ten years (2009-2018). It is in the range or has already exceeded the percent token of academic word list standard.

As the result, the English exam papers of SBMPTN has been already feasible to be tested in graduated student of high school because it is regarded as academic text. From the last ten years, the number of percent token of English exam papers of SBMPTN has experienced fluctuation. There are several years which fulfilled the standard of academic text while the other years did not. It seems that the English test makers of SBMPTN is not consistent in making or adapting the text from year to year.

**Figure 4.2 Academic Word List Chart from 2009 - 2018**



Through academic word list chart, it could be inferred that academic word list of English exam papers of SBMPTN has fluctuated from 2009 to 2018. From 2009 to 2010, the percent token of AWL had increased. Then, from 2010 to 2011

and 2012, the percent token of AWL had decreased until 5.1% which is considered as the lowest number of AWL of all. After that, it increased again in 2013 which is the highest AWL from the first five years (2009 - 2013).

From 2013 to 2014, the percent token of AWL has declined from 8.4% to 7%. This number did not change in the following year. However, it has improved and reached 9.1% in 2016. After that, in 2017, the percent token of AWL experienced setback and the next year, in 2018, it has increased percent token of AWL 13% which is regarded as the highest number of AWL of all.

As shown in figure 4.2, the lowest number of academic word list is in the year 2012 that is 5.1% with total tokens 1734. On the other hand, in highest number of academic word list is 13% which is in 2018 with total tokens 2256. To know whether the difference is significant or not, the writer calculated the percent token of AWL in the last ten years by using Chi-Square test. The result is obtained by entering actual range and expected range in Ms. Excel. The finding shows Chi-Square value is 0.79. This is considered as insignificant because the value is higher 0.05. It means, there is no significant difference in making process of English exam papers of SBMPTN in the last ten years.

While the criteria of academic text should achieve percent tokens of AWL 9%, different finding is revealed by study which was conducted by Hajiyeva in 2015. She revealed the range of AWL percent token that is supposed to be in particular text or textbook. For instance, 5.98% is the percent token of AWL in science-specific middle school textbooks; 9.06% of the tokens in agriculture research articles; and 10.7% of the tokens in the medical research articles. If we

take comparison according to Hajiyeva's study, the percent token of academic word list in English exam papers of SBMPTN is good enough. This is because percent token of AWL in science-specific middle school textbooks is 5.98% while in SBMPTN, the average of AWL is 7.7%. With the different reference point (benchmark), the result and critic may vary.

This can be guidance for determining the limits of the AWL which should be met in arranging a text in order to be appropriate with the genre and the level of the readers or learners. Looking at these findings, it can be concluded that several English exam papers of SBMPTN require improvements in terms of text-making and lexical selection in order to be considered as academic text since the test takers is graduated students of grade 12.

#### **4.1.4. Lexical Variation Analysis**

The last aim of Lexical Richness in this study is to measure Lexical Variation. According to McCarthy & Jarvis (2013) and Yu (2010), lexical variation is one of the aspect used in lexical richness to measure the scale of a learner's vocabulary as depicted on how he or she uses the language. This measurement shows how the learner tends to repeat a particular lexical item. Thereby, lexical variation is an indication of the level of lexical repetition. The higher of lexical variation, the more varied the learner's active lexical item, which reveals a higher level of lexical proficiency (Cooper, 1993).

In the lexical variation, it will deal with the calculation of Type Token Ratio (TTR). TTR concerns with the ratio of types (various word used in the learners'

texts) to tokens (the total word numbers). To calculate Lexical Variation which deals with Type Token Ratio included in the English exam papers of SBMPTN in the last 10 years, the researcher also used VocabProfiler software. After entering the data into VocabProfiler, the writer arranges the results are in the form of tabulation. The tabulation for each TTR of English exam papers of SBMPTN is provided below.

**Table 4.26 The Tabulation of Type Token Ratio in 2009**

<b>RELATED RATIOS &amp; INDICES</b>	
<i>Pertaining to whole text</i>	
Words in text (tokens)	1781
Different words (types)	608
<b>Type-token ratio</b>	<b>0.34</b>
Tokens per type	2.93

Table 4.26 shows the tabulation of type token ratio in 2009. The number of TTR in 2009 is 0.34. Type token ratio is obtained from the calculation of the number of types divided by the number of tokens in particular text. It means, the number of TTR is acquired by 608 divided by 1781, then it is obtained  $TTR = 0.34$ .

**Table 4.27 The Tabulation of Type Token Ratio in 2010**

<b>RELATED RATIOS &amp; INDICES</b>	
<i>Pertaining to whole text</i>	
Words in text (tokens)	1780
Different words (types)	695
<b>Type-token ratio</b>	<b>0.39</b>
Tokens per type	2.56



Table 4.27 shows the tabulation of type token ratio in 2010. The number of TTR in 2010 is 0.39. Type token ratio is obtained from the calculation of the number of types divided by the number of tokens in particular text. It means, the number of TTR is acquired by 695 divided by 1780, then it is obtained  $TTR = 0.39$ .

**Table 4.28 The Tabulation of Type Token Ratio in 2011**

<b>RELATED RATIOS &amp; INDICES</b>	
<i>Pertaining to whole text</i>	
Words in text (tokens)	1821
Different words (types)	581
<b>Type-token ratio</b>	<b>0.32</b>
Tokens per type	3.13

Table 4.28 shows the tabulation of type token ratio in 2011. The number of TTR in 2011 is 0.32. Type token ratio is obtained from the calculation of the number of types divided by the number of tokens in particular text. It means, the number of TTR is acquired by 581 divided by 1821, then it is obtained  $TTR = 0.32$ .

**Table 4.29 The Tabulation of Type Token Ratio in 2012**

<b>RELATED RATIOS &amp; INDICES</b>	
<i>Pertaining to whole text</i>	
Words in text (tokens)	1734
Different words (types)	625
<b>Type-token ratio</b>	<b>0.36</b>
Tokens per type	2.77

Table 4.29 shows the tabulation of type token ratio in 2012. The number of TTR in 2012 is 0.36. Type token ratio is obtained from the calculation of the number

of types divided by the number of tokens in particular text. It means, the number of TTR is acquired by 625 divided by 1734, then it is obtained  $TTR = 0.36$ .

**Table 4.30 The Tabulation of Type Token Ratio in 2013**

<b>RELATED RATIOS &amp; INDICES</b>	
<i>Pertaining to whole text</i>	
Words in text (tokens)	1776
Different words (types)	685
<b>Type-token ratio</b>	<b>0.39</b>
Tokens per type	2.59

Table 4.30 shows the tabulation of type token ratio in 2013. The number of TTR in 2013 is 0.39. Type token ratio is obtained from the calculation of the number of types divided by the number of tokens in particular text. It means, the number of TTR is acquired by 685 divided by 1776, then it is obtained  $TTR = 0.39$ .

**Table 4.31 The Tabulation of Type Token Ratio in 2014**

<b>RELATED RATIOS &amp; INDICES</b>	
<i>Pertaining to whole text</i>	
Words in text (tokens)	1837
Different words (types)	634
<b>Type-token ratio</b>	<b>0.35</b>
Tokens per type	2.90

Table 4.31 shows the tabulation of type token ratio in 2014. The number of TTR in 2014 is 0.35. Type token ratio is obtained from the calculation of the number of types divided by the number of tokens in particular text. It means, the number of TTR is acquired by 634 divided by 1837, then it is obtained  $TTR = 0.35$ .

**Table 4.32 The Tabulation of Type Token Ratio in 2015**

<b>RELATED RATIOS &amp; INDICES</b>	
<i>Pertaining to whole text</i>	
Words in text (tokens)	1763
Different words (types)	632
<b>Type-token ratio</b>	<b>0.36</b>
Tokens per type	2.79

Table 4.32 shows the tabulation of type token ratio in 2015. The number of TTR in 2015 is 0.36. Type token ratio is obtained from the calculation of the number of types divided by the number of tokens in particular text. It means, the number of TTR is acquired by 632 divided by 1763, then it is obtained  $TTR = 0.36$ .

**Table 4.33 The Tabulation of Type Token Ratio in 2016**

<b>RELATED RATIOS &amp; INDICES</b>	
<i>Pertaining to whole text</i>	
Words in text (tokens)	2298
Different words (types)	682
<b>Type-token ratio</b>	<b>0.30</b>
Tokens per type	3.37

Table 4.33 shows the tabulation of type token ratio in 2016. The number of TTR in 2016 is 0.30. Type token ratio is obtained from the calculation of the number of types divided by the number of tokens in particular text. It means, the number of TTR is acquired by 682 divided by 2298, then it is obtained  $TTR = 0.30$ .

**Table 4.34 The Tabulation of Type Token Ratio in 2017**

<b>RELATED RATIOS &amp; INDICES</b>	
<i>Pertaining to whole text</i>	
Words in text (tokens)	2289
Different words (types)	718
<b>Type-token ratio</b>	<b>0.31</b>
Tokens per type	3.19

Table 4.34 shows the tabulation of type token ratio in 2017. The number of TTR in 2017 is 0.31. Type token ratio is obtained from the calculation of the number of types divided by the number of tokens in particular text. It means, the number of TTR is acquired by 718 divided by 2289, then it is obtained  $TTR = 0.31$ .

**Table 4.35 The Tabulation of Type Token Ratio in 2018**

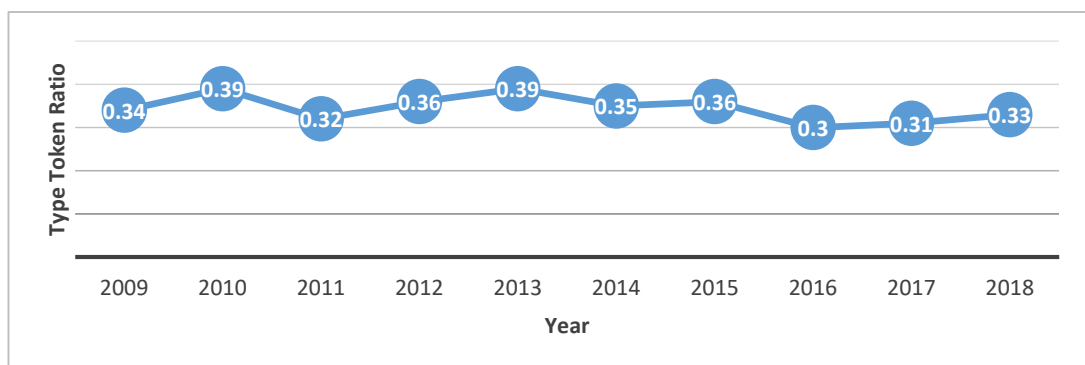
<b>RELATED RATIOS &amp; INDICES</b>	
<i>Pertaining to whole text</i>	
Words in text (tokens)	2256
Different words (types)	734
<b>Type-token ratio</b>	<b>0.33</b>
Tokens per type	3.07

Table 4.35 shows the tabulation of type token ratio in 2018. The number of TTR in 2017 is 0.33. Type token ratio is obtained from the calculation of the number of types divided by the number of tokens in particular text. It means, the number of TTR is acquired by 734 divided by 2256, then it is obtained  $TTR = 0.33$ . In general, every word is repeated 3 times because token per type is between 2.56 – 3.37 (the number can be rounded up into 3).

**Table 4.36 Tabulation of TTR from 2009 - 2018**

No.	Year	TTR	Tokens
1.	2009	0.34	1781
2.	2010	<b>0.39</b>	<b>1780</b>
3.	2011	0.32	1821
4.	2012	0.36	1734
5.	2013	<b>0.39</b>	<b>1776</b>
6.	2014	0.35	1837
7.	2015	0.36	1763
8.	2016	<b>0.30</b>	<b>2298</b>
9.	2017	0.31	2289
10.	2018	0.33	2256

Table 4.36 presents the highest and the lowest number of TTR from 2009 up to 2018. Moreover, it also illustrates token numbers of English exam papers of SBMPTN each year. It could be seen from the table that the highest number of TTR is in the year 2010 and 2013 with number of TTR 0.39 respectively. Meanwhile, the numbers of token of 2010 and 2013 is different, that is 1780 and 1776. It might have been influenced by the number of type in the text.

**Figure 4.3 Type Token Ratio Chart from 2009 – 2018**

Through type token ratio chart, it could be inferred that TTR of English exam papers of SBMPTN has fluctuated from 2009 to 2018. From 2009 to 2010, the number of TTR had increased. Then, from 2010 to 2011 and 2012, the TTR of English exam papers of SBMPTN had decreased into 0.32. This number continues to increase up to two years later reaching 0.39 which is regarded as the two highest number of TTR in the last five years (2009 - 2013).

From 2014 to 2018, the numbers of TTR are below the first five years (2009 - 2013) with 0.35, 0.36, 0.3, 0.31, 0.33 respectively. As it has been understood that the number of TTR indicates lexical variation in particular text. It means, the higher number of TTR, the more varied set of lexical the text will contain. In conclusion, the English exam papers of SBMPTN which have the most lexical variation or have few repetitions of lexical are in the year 2010 and 2013.

The Type Token Ratio findings were further calculated by using Chi-Square formula to examine the difference each year whether it is significant or not. The Chi-Square value is 1. Because the number is more than 0.05, it is considered as insignificant. It means, there is no significant difference between years in term of Lexical Variation of English exam papers of SBMPTN.

The similar study was also conducted by Astridya in 2018. She examined lexical variation which deals with TTR in expository writing written by students at grade 10, 11, and 12. In her study, lexical variation of grade 12 writing is 0.51. It is considered higher than TTR of English exam paper of SBMPTN in 2010 and 2013 which is 0.39. It means, the expository writings of grade 12 more varied than English exam papers of SBMPTN.

## 4.2 Syntactic Complexity Analysis

Syntactic complexity is a crucial aspect of the language of a text which basically indicates complexity of grammar. Syntactic complexity of sentences in a text ought to be involved as an explicit and aspect in a text complexity model owing to the fact that provide the meaning of text and grammatical meaning affects reading comprehension. (Frantz, Starr, & Bailey, 2015). Besides Lexical Richness, this study also analyzed syntactic complexity of English exam papers of SBMPTN in the last ten years by using L2 Syntactic Complexity Analyzer.

The web of L2 Syntactic Complexity Analyzer mechanically examines 14 different measures of syntactic complexity based on Lu (2015), covering (1) Length of Production Units: MLS (Mean Length of Sentence), MLT (Mean Length of T-unit) and MLC (Mean Length of Clause), (2) Amounts of Coordination: CP/C (Coordinate Phrases per Clause), CP/T (Coordinate Phrases per T-unit), and T/S (Sentence Coordination Ratio), (3) Amounts of Subordination: C/T (T-unit Complexity Ratio), CT/T (Complex T-unit Ratio), DC/C (Dependent Clause Ratio), and DC/T (Dependent Clause per T-unit), (4) Degree of Phrasal Sophistication: CN/C (Complex Nominals per Clause), CN/T (Complex Nominals per T-unit), and VP/T (Verb Phrases per T-unit) and (5) Sentence Complexity: C/S (Sentence Complexity Ratio). The result presented below provides the tabulation of syntactic complexity.

**Table 4.37 Syntactic Complexity Tabulation**

No	Measure	Year									
		2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
1	<b>W</b>	1900	1934	1936	1848	1948	1944	<u>1832</u>	2384	<b>2410</b>	2383
2	<b>S</b>	148	89	92	94	<u>59</u>	86	99	<b>171</b>	138	103
3	<b>VP</b>	244	207	218	214	<u>152</u>	196	211	<b>288</b>	250	220
4	<b>C</b>	197	145	179	155	<u>118</u>	154	162	<b>237</b>	210	173
5	<b>T</b>	143	85	100	104	<u>65</u>	90	102	<b>159</b>	136	110
6	<b>DC</b>	51	53	73	<u>40</u>	50	66	62	<b>81</b>	70	62
7	<b>CT</b>	39	36	45	<u>30</u>	33	45	39	<b>58</b>	45	44
8	<b>CP</b>	42	<u>31</u>	36	43	33	32	44	62	53	<b>80</b>
9	<b>CN</b>	230	252	274	227	<u>214</u>	233	245	<b>336</b>	302	266
10	<b>MLS</b>	<u>12.8</u> 4	21.7 3	21.0 4	19.6 6	<b>33.0</b> 2	22.6 0	18.5 1	13.9 4	17.4 6	23.1 4
11	<b>MLT</b>	<u>13.2</u> 9	22.7 5	19.3 6	17.7 7	<b>29.9</b> 7	21.6 0	17.9 6	14.9 9	17.7 2	21.6 6
12	<b>MLC</b>	9.64	13.3 4	10.8 2	11.9 2	<b>16.5</b> 1	12.6 2	11.3 1	<u>10.0</u> 6	11.4 8	13.7 7
13	<b>C/S</b>	<u>1.33</u>	1.63	1.95	1.65	<b>2.00</b>	1.79	1.64	1.39	1.52	1.68
14	<b>VP/T</b>	<u>1.71</u>	<b>2.44</b>	2.18	2.06	2.34	2.18	2.07	1.81	1.84	2.00
15	<b>C/T</b>	<u>1.38</u>	1.71	1.79	1.49	<b>1.82</b>	1.71	1.59	1.49	1.54	1.57
16	<b>DC/C</b>	0.26	0.37	0.41	<u>0.26</u>	0.42	<b>0.43</b>	0.38	0.34	0.33	0.36
17	<b>DC/T</b>	<u>0.36</u>	0.62	0.73	0.38	<b>0.77</b>	0.73	0.61	0.51	0.51	0.56
18	<b>T/S</b>	0.97	0.96	1.09	<b>1.11</b>	1.10	1.05	1.03	<u>0.93</u>	0.99	1.07
19	<b>CT/T</b>	<u>0.27</u>	0.42	0.45	0.29	<b>0.51</b>	0.50	0.38	0.36	0.33	0.40
20	<b>CP/T</b>	<u>0.29</u>	0.36	0.36	0.41	0.51	0.36	0.43	0.39	0.39	<b>0.73</b>
21	<b>CP/C</b>	0.21	0.21	<u>0.20</u>	0.28	0.28	0.21	0.27	0.26	0.25	<b>0.46</b>
22	<b>CN/T</b>	<u>1.61</u>	2.96	2.74	2.18	<b>3.29</b>	2.59	2.40	2.11	2.22	2.42
23	<b>CN/C</b>	<u>1.17</u>	1.74	1.53	1.46	<b>1.81</b>	1.51	1.51	1.42	1.44	1.54

The above table provides the tabulation of syntactic complexity measurement of English exam papers of SBMPTN from 2009 up to 2018. The bold numbers represent the highest number of each measure among the last ten years. Meanwhile, the underlined numbers embody the lowest number of each measure among the last ten years.



**Table 4.38 Chi-Square Values of Each Measure**

No.	Measure	Average	Chi-Square value	Significance
1	MLS	20.39	0.122569791	Insignificant
2	MLT	19.71	0.353710464	Insignificant
3	MLC	12.15	0.962733235	Insignificant
4	C/S	1.66	0.99999844	Insignificant
5	VP/T	2.06	0.999998845	Insignificant
6	C/T	1.61	0.99999955	Insignificant
7	DC/C	0.36	0.99999982	Insignificant
8	DC/T	0.58	0.999995938	Insignificant
9	T/S	1.03	1	Insignificant
10	CT/T	0.39	0.99999842	Insignificant
11	CP/T	0.42	0.999996237	Insignificant
12	CP/C	0.26	0.99999471	Insignificant
13	CN/T	2.45	0.999744432	Insignificant
14	CN/C	1.51	0.99999616	Insignificant

Table 4.38 provides the Chi-Square values from each measure among the last ten years. Since the Chi-Square value is more than 0.05, there is no significant difference in the term Mean Length of Sentence (MLS). It means that from English exam papers of SBMPTN in 2009 – 2018, there is no significant difference in the length of sentence. The Mean Length of Sentence is 20 (rounding off 20.39) word per sentences. If this value is compared based on study conducted by Dewi (2017), MLS of undergraduate students' research article is 20.77. This value is similar with the result of MLS in English exam papers of SBMPTN for the last ten years.

Meanwhile, this length of sentence is higher than the length of sentence written by English student (MLS=19.56) in the study conducted by Lu & Ai (2015). They observed syntactic complexity in college-level English writing with different L1 backgrounds (Japanese, Chinese, Russian, English, Bulgarian, French, Tswana,

and German). However, if compared, the present study's MLS is lower than MLS of German students (MLS=22.3).

In term of Mean Length of T-unit (MLT), there is no significant difference. It means that from English exam papers of SBMPTN in 2009 – 2018, there is no significant difference in the mean length of T-unit. The Mean Length of T-unit is 19 (rounding off 19.71) T-unit per sentence. The present result has the similar value compared with study conducted by Dewi (2017) in term of Mean Length of T-unit (19.27). Nevertheless, it is considered the highest of all Mean Length of T-unit from college-level students' writing based on study made by Lu & Ai (2015).

Based on table 4.38, Mean Length of Clause (MLC) of English exam papers of SBMPTN reaches 12.15 or 12 clause per sentence. This number is the highest of Mean Length of Clause of all sample in college-level students' writing based on Lu & Ai's study. Moreover, this result is also higher than MLC in undergraduate research articles in Dewi's study (MLC= 11.07). If it is calculated by using Chi-square, the value is 0.1. Thus, it is considered as insignificant since the value is more than 0.05. It means, English exam papers of SBMPTN from 2009-2018 has no significant different in term of Mean Length of Clause (MLC).

Furthermore, in term of C/S (Sentence Complexity Ratio) the calculation of syntactic complexity is 1.66 and the different is insignificant. It means, there is no significant difference in term of Sentence Complexity Ratio of English exam papers of SBMPTN in the last ten years. Meanwhile, compared with Lu & Ai's study (2015), this number is considered the lowest of all (Japanese, Chinese, Russian, English, Bulgarian, French, Tswana, and German). In addition, sentence

complexity ratio value in SBMPTN exam paper is also lower than sentence complexity ratio in Dewi's study (1.89). It means, the English exam papers of SBMPTN is the easiest compared to these two studies.

Next, the calculation of syntactic complexity in term of VP/T (Verb Phrases per unit) is 2.06. The value of Chi-Square test is 0.1, so the different is insignificant among years. It means, there is no significant difference in term of Verb Phrases per unit of English exam papers of SBMPTN in the last ten years. However, compared with Lu & Ai's study (2015), this number is considered the lowest of all [Japanese (2.07), Chinese (2.18), Russian (2.18), English (2.34), Bulgarian (2.36), French (2.28), Tswana (2.28), and German (2.53)]. Besides, Verb Phrase per unit of English exam papers of SBMPTN is also lower than Verb Phrase per unit in undergraduate research articles in Dewi's study (2.36).

Table 4.38 presents C/T (T-unit complexity ratio). The value is 1.61 and Chi-Square value is 0.1. Thus, T-unit complexity ratio is regarded as insignificant among years. The value of T-unit complexity ratio in SBMPTN exam papers is higher than Japanese (1.58) and Chinese (1.60), but still lower than Russian (1.65), English (1.73), Bulgarian (1.77), French (1.67), Tswana (2.10) and German (1.80). In addition, the value of T-unit complexity ratio in English exam papers of SBMPTN is also lower than the value of T-unit complexity ratio in undergraduate research articles (1.75).

In addition, table 4.38 also presents DC/C (Dependent Clause Ratio). A dependent clause is a group of words with a subject and a verb which does not express a complete thought so it is not a sentence and cannot stand alone. It involves

adverb clauses, adjective clauses and noun clause. The value of DC/C in this study is 0.36. This value is similar to Dependent Clause Ratio of Russian students' writing (0.36) yet still lower than English students' writing (0.40). Moreover, the result is also lower than undergraduate research articles in Dewi's study (0.37). The Chi-square value is 0.1 so it is considered insignificant. It means, there is no significant difference ratio of dependent clause among English exam papers of SBMPTN in the last ten years.

The Chi-Square value of DC/T (Dependent Clause per T-units) is more than 0.05, there is no significant difference in the term Dependent Clause per T-units. It means that from English exam papers of SBMPTN in 2009 – 2018, there is no significant difference in the complexity of dependent clause per T-units. The value of Dependent Clause per T-unit is 0.58. The value of Dependent Clause per T-unit is similar to DC/T of the Japanese students' writing (0.58), but still, lower than English students' writing (0.73) and undergraduate research articles in Dewi's study (0.67).

In term of T/S (Sentence Coordination Ratio) of the English exam papers of SBMPTN, the value is 1.03. While the Chi-square value is 1. This value indicates insignificant since the value is more than 0.05. It suggests that difference of sentence coordination ratio of English exam papers of SBMPTN in the last ten years is not significant. Notwithstanding, if this number is compared with sentence coordination ratio of undergraduate research articles in Dewi's study, this number is considered lower than the latter. Moreover, the value of sentence coordination

ratio in this study is the lowest of all sentence coordination ratio of English students' writing in Lu & Ai's study.

Complex T-unit Ratio which is symbolized by CT/T in this study has the value = 0.39. The Chi-square value of complex T-unit ratio from English exam papers of SBMPTN is 0.1. It means, there is no significant difference in term of complex T-unit ratio in SBMPTN English exam papers from 2009 - 2018. If this value of complex T unit ratio compared with complex T-unit ratio of undergraduate research articles in Dewi's study (0.47), it is regarded lower than the latter. Besides, Complex T-unit ratio in present study places the lowest of all values of Complex T-unit ratio of English students' writing in Lu & Ai's study.

CP/T (Coordinate Phrases per T-unit) in present study has the value = 0.42. The Chi-square value of coordinate phrases per T-unit from English exam papers of SBMPTN is 0.1. It means, there is no significant difference in term of coordinate phrases per T-unit in SBMPTN English exam papers from 2009 - 2018. Coordinate phrases per T-unit in present study is lower than coordinate phrases per T-unit of English students' writing in Lu & Ai's study (0.43). Moreover, the value of coordinate phrases per T-unit in present study is lower than coordinate phrases per T-unit in undergraduate research articles in Dewi's study.

CP/C (Coordinate Phrases per Clause) in present study has the value = 0.26. The Chi-square value of coordinate phrases per clause from English exam papers of SBMPTN is 0.1. It means, there is no significant difference in term of coordinate phrases per clause in SBMPTN English exam papers from 2009 - 2018. Coordinate phrases per clause in present study is higher than coordinate phrases per phrase of

English students' writing in Lu & Ai's study (0.25), yet, it is still lower than German students' writing (0.27) and Bulgarian (0.30). In addition, this value is also lower than Dewi's study (0.29)

CN/T (Complex Nominals per T-unit) in present study has the value = 2.45. The Chi-square value of complex nominals per T-unit from English exam papers of SBMPTN is 0.1. It means, there is no significant difference in term of complex nominals per T-unit in SBMPTN English exam papers from 2009 - 2018. Complex Nominals per T-unit in present study is considered the highest of all sample taken in Lu & Ai's study (Japanese, Chinese, Russian, English, Bulgarian, French, Tswana, and German). However, compared to Dewi's study, the value of complex nominal per T-units in present study is considered higher than complex nominal per T-unit of undergraduate research articles in Dewi's study.

CN/C (Complex Nominal per Clause) in present study has the value = 1.51. The Chi-square value of complex nominal per clause from English exam papers of SBMPTN is 0.1. It means, there is no significant difference in term of complex nominal per clause in SBMPTN English exam papers from 2009 - 2018. Complex nominal per clause in present study is considered the highest of all sample taken in Lu & Ai's study (Japanese, Chinese, Russian, English, Bulgarian, French, Tswana, and German). The value of complex nominal per clause in present study is also higher than the value of complex nominal per clause in Dewi's study (1.39).

### 4.3 Interpretation of the Study

In this section, the writer conveyed the point of each discussion of lexical richness and syntactic complexity of English exam papers of SBMPTN from 2009 up to 2018. In this present study, lexical richness consists of discussion about lexical originality which attempts to determine which text is the most original (has the most unique words) compared to the other texts in the same level of difficulty, lexical density that expects to discover the text of which has the densest content word / lexical items compared to the other text, lexical sophistication which deals with the use of academic words in a text and lexical variation that aims to determine which text is the most vary compared to the other text in the same level of difficulty. On the other hand, the syntactic complexity consists of 14 measures which is divided into 5 groups: length of production unit, amount of subordination, amount of coordination, degree of phrasal sophistication, and overall sentence complexity.

Based on the result of lexical originality, we could see that the highest number of not found words compared to the other years is in the year 2010 (not found words = 256 words). It means, the most original text of English exam papers of SBMPTN is in the year 2010. Meanwhile, the lowest number of lexical originality of English exam papers of SBMPTN is in the year 2009 with 186 words. However, based on Chi-Square test of lexical originality result above, the value is 0.1 which means that the difference in each year is **insignificant**. This means that the writers of the English exam papers of SBMPTN from 2009 to 2018 have used approximately the similar of unique words in each year. This probably happens because of two reasons.

First, the writers of exam paper are in the form of team consisting of selected people that is trusted by the Ministry of Education to compose English exam papers of SBMPTN. As a result, they had to join the training to make the same perception and opinion for arranging the exam papers that are going to be tested for graduated students. The second factor is probably because the writers of English exam papers of SBMPTN from year to year are the same people. Hence, in proposing the exam papers, they have already known the principle and curriculum of education which is being applied in Indonesia.

Lexical density in this present study insists on finding out which English exam paper of SBMPTN that has the densest content words compared to the other English exam papers of SBMPTN. Content words here consists of nouns, verbs, adjectives, and adverbs. For nouns, the highest number of nouns is in the year 2017 (appearing 630 tokens of nouns) while the lowest number is in 2015 (appearing 484 tokens of nouns). Based on calculation of Chi-Square test on the number of nouns, the Chi-square value is 0.00. Hence, it shows **significant** differences. It means that the distribution of nouns from 2009 up to 2018 is inconsistent.

For adjectives, the highest number of adjectives is in the year 2018 (appearing 238 tokens of adjectives) while the lowest number of adjectives is in 2012 (appearing 133 tokens of adjectives). The different number of adjectives is quite large from 133 to 238 that is 105 tokens of adjective. If it is calculated by using Chi-Square test, it is considered as **significant** since the Chi-Square value is 0.00. It is considered as inconsistent because too many adjectives in particular year while in another year, the number of adjectives is too small. In fact, it will affect



the level of difficulty appeared in the text. Referring to the result, the test maker is supposed to present the text which the range number of adjectives is in the average of the result that is around 173.

In the term of verbs, the lowest number of verbs is in the year 2013 with 172 tokens of verb. Meanwhile, the highest number of verbs is in 2017 with 244 tokens of verb. The different between the highest and the lowest number of verbs is 72. Based on Chi-Square, the value is 0.00. Therefore, it is considered as **significant**. It means, the difference between the highest and the lowest verbs is quite large or not consistent because too many verbs in 2017 while the verbs in 2013 is too small. It is, of course, will influence the difficult level of the text.

For adverb, we can see from the result that the highest number of adverbs is in the year 2010 with 95 tokens of adverbs while the lowest number of adverbs is in the year 2011 with 63 tokens of adverbs. If we calculate by using Chi-Square test, it is obtained 0.18. This result is considered as **insignificant**. It means the number of adverbs year by year is evenly distributed.

Lexical density can be obtained by dividing content words with the number of tokens of each text. From the lexical density result, the highest number of lexical density is in the year 2010 with 0.54 value. Nonetheless, the lowest number of lexical density is in the year 2011 and 2016 with 0.49 value, respectively. Based on Chi-Square formula, the value is 1. This number is regarded as **insignificant**. It means, there is no significant difference of each year in term of lexical density.

In the calculation of Chi-Square of nouns, adjectives, and verbs is considered as significant because nouns, adjectives, and verbs are part of speech

that has big numbers in English. While adverb is the part of speech that has small numbers in English. Therefore, in Chi-Square test of adverbs, the value is not significant. In addition, in lexical density result of Chi-Square test, it shows insignificant as well. It might have happened because the writers do not focus on the word choices, but they more emphasize at the idea of the genre or text.

The similar study was also conducted by Astridya in 2018. She examined lexical density in expository writing created by students at grade 10, 11, and 12. In grade 12's writing, the lexical density obtained was 0.54. This value is similar if it is compared to the largest lexical density resulted from the English exam papers of SBMPTN which is also 0.54. It means, the density level of expository writing made by grade 12 students is as dense as the density level of English exam papers of SBMPTN. Therefore, the English exam papers of SBMPTN is feasible to be tested for graduated student grade 12 in terms of Lexical Density.

Continuing the next type called lexical sophistication which focused on academic word list to examine the academic text. The lowest number of academic word list in the year 2012 that is 5.1% with total tokens 1734. On the other hand, the highest number of academic word list is 13% which is in 2018 with total tokens 2256. In the Chi-Square test, the different of AWL between years is insignificant. It means, there is no significant difference of AWL in English exam papers of SBMPTN from 2009 to 2018. While the criteria of academic text should achieve percent tokens of AWL 9%, different finding is revealed by study which was conducted by Hajiyeva in 2015. She revealed the range of AWL percent token for science-specific middle school textbooks was 5.98%. If we take comparison

according to Hajiyeva's study, the percent token of academic word list in English exam papers of SBMPTN is good enough because the average of AWL in SBMPTN exam papers is 7.7%. In other words, with the different reference point (benchmark), the result and critic may vary.

Following the last type of lexical richness measurement, lexical variation measures the range of a learner's vocabulary as presents in her or his language use. In lexical variation, the English exam papers of SBMPTN which has the highest TTR or has a few repetitions of lexical items is in the year 2010 and 2013. The lowest TTR was experienced in the English exam paper of SBMPTN in the year 2016. Nevertheless, the different in each year is not significant because based on Chi-Square test, the value is 1. The result of TTR in this study is lower than Astridya's study about TTR in expository writing created by students at grade 10, 11, and 12. It means, the expository writing produced by students grade 12 is more varied than English exam papers of SBMPTN. Hence, the quality of English exam papers of SBMPTN need to be improved as well.

Besides lexical richness, this study also investigates the syntactic complexity of English exam papers of SBMPTN from 2009 to 2018 by using L2 Syntactic Complexity Analyzer. In term of length of production unit which involves of mean length of sentence (MLS), mean length of T-units (MLT), and mean length of clauses (MLC), this study shows approximately similar result of length of production unit to Dewi's study. However, this result is considered higher than Lu & Ai's study. It means, the length of production units of the English exam papers

of SBMPTN is similar with undergraduate research articles but it is still higher than college-level English writing.

Notwithstanding with the result of length of production units, in term of amount of subordination which covers T-unit complexity ratio (C/T), complex T-unit ratio (CT/T), dependent clause per clause (DC/C) and dependent clause per T-units (DC/T), this study shows finding that is lower than Dewi and Lu & Ai's study. It means, the amount of subordination of undergraduate research articles and college-level English writing is more complex than the amount of subordination of English exam papers of SBMPTN.

The amount of coordination embraces of coordinate phrases per clauses (CP/C), coordinate phrases per T-units (CP/T), and sentence coordination ratio (T/S). This study found that the amount of coordination has similar value to Lu & Ai's study. On the other hand, it is still lower than Dewi's study. Thus, the amount of coordination of English exam papers of SBMPTN as complex as college-level English writing but still less complex than undergraduate research articles.

Degree of phrasal sophistication comprises complex nominal per clause (CN/C), complex nominal per T-unit (CN/T), and verb phrases per T-unit (VP/T) and sentence complexity ratio (C/S). Compared to Lu & Ai's study, degree of phrasal sophistication of English exam papers of SBMPTN is similar to it. While compared to Dewi's study, this present study is higher in term of degree of phrasal sophistication. It means, degree of phrasal sophistication of English exam papers of SBMPTN is as complex as degree of phrasal sophistication of college-level English writing, yet, still more complex than undergraduate research articles.

## CHAPTER V

### CONCLUSION

In accordance with the result and discussion in the previous chapter, the writer comes to the conclusion. This study aims to investigate the lexical richness and syntactic complexity of English exam papers of SBMPTN from 2009 to 2018 which consists of ten papers with 19.335 total tokens. The data were analyzed by several tools: AntWord Profiler, AntConc, Vocabprofiler, Claws Tagger, and L2 Syntactic Complexity Analyzer.

In the result of lexical originality, the writer found that the most original English exam paper from 2009 to 2018 exists in the year 2010 with 256 words that are not found in other English exam papers of SBMPTN. It means, in the year 2009, the English exam papers of SBMPTN has 256 'unique' lexical items that do not appear in other years. Nonetheless, the different number year to year is not significant each other.

Next, in the lexical density findings, the writer found out that the densest lexical items which consist of nouns, adjectives, verbs, and adverbs existed in the year 2010. In a text, lexical words give meaning and information of what the text tells us about. Thereby, lexical density is simply a measure of how informative a text is. In other words, the English exam papers of SBMTPN in the year 2010 is the most informative compare to the other years. However, there is no significant difference of each year in term of lexical density.

Continuing the result of lexical sophistication discussion which is included into lexical richness measurement, the writer figured out that several English exam papers of SBMPTN such as in the year 2016 and 2018 has exceeded the percent token of AWL 9% based on Coxhead's theory. It means, the papers in the rest years has not been regarded as 'academic' text yet. Nevertheless, when it comes to another researcher who has analyzed the similar study about lexical sophistication, the percent token of academic word list in English exam papers of SBMPTN is good enough. This is because percent token of AWL in science-specific middle school textbooks is 5.98% while in SBMPTN, the average of AWL is 7.7%. With the different reference point (benchmark), the result and critic may vary.

The fourth type of lexical richness in this study is to measure lexical variation. This measurement shows how the learner tends to repeat a particular lexical item. In other words, lexical variation is an indication of the level of lexical repetition. The higher of lexical variation, the more varied the learner's active lexical item, which reveals a higher level of lexical proficiency (Cooper, 1993). In the lexical variation, it deals with the calculation of Type Token Ratio (TTR). TTR concerns with the ratio of types (various word used in the learners' texts) to tokens (the total word numbers). In the result of TTR, the writer figured out that the English exam papers of SBMPTN which have the most lexical variation or have few repetitions of lexical are in the year 2010 and 2013.

Besides lexical richness, this study also investigates the syntactic complexity of English exam papers of SBMPTN from 2009 to 2018 by using L2 Syntactic Complexity Analyzer. In term of length of production unit, this study

shows approximately similar result of length of production unit to Dewi's study about undergraduate research articles. However, this result is considered higher than Lu & Ai's study about college-level English writing.

Notwithstanding with the result of length of production units, in term of amount of subordination in this study shows the finding that is lower than Dewi and Lu & Ai's study. It means, the amount of subordination of undergraduate research articles and college-level English writing is more complex than the amount of subordination of English exam papers of SBMPTN.

In term of the amount of coordination, this study found that the amount of coordination has similar value to Lu & Ai's study. On the other hand, it is still lower than Dewi's study. Thus, the amount of coordination of English exam papers of SBMPTN as complex as college-level English writing but still less complex than undergraduate research articles.

Compared to Lu & Ai's study, degree of phrasal sophistication of English exam papers of SBMPTN is similar to it. While compared to Dewi's study, this present study is higher in term of degree of phrasal sophistication. It means, degree of phrasal sophistication of English exam papers of SBMPTN is as complex as degree of phrasal sophistication of college-level English writing, yet, still more complex than undergraduate research articles.

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## APPENDICES

### English Exam Paper of SNMPTN in 2009

#### Passage 1

Vitamin D deficiency is traditionally associated with bone and muscle weakness, but in recent years a number of studies have shown that low levels of the vitamin may predispose the body to high blood pressure, congestive heart failure, and chronic blood vessel inflammation (associated with hardening of the arteries). It also alters hormone levels to increase insulin resistance, with raises the risk of diabetes.

In a review article published in the *Journal of the American College of Cardiology*, researchers surveyed recent studied on the link between vitamin D deficiency and heart disease to come up with practical advice on screening and treatment. They concluded that vitamin D deficiency is much more common than previously thought, affecting up to half of adults and apparently healthy children in the U.S. Researchers say higher rates of vitamin D deficiency may be due in part to people spending more time indoors and efforts to minimize sun exposure through the use of sunscreens.

Sunscreen with a sun protection factor (SPF) of 15 blocks approximately 995 of vitamin D synthesis by the skin. “We are outside less than we used to be, and older adults and people who are overweight or obese are less efficient at making vitamin D in response to sunlight,” says O’Keefe. “A little bit of sunshine is a good thing, but the use of sunscreen to guard against skin cancer is important if you plan to be outside for more than 15 to 30 minutes of intense sunlight exposure.”

1. The main idea of this passage is that...
  - a. Vitamin D deficiency in one’s body is the main cause of diseases.
  - b. Traditional vitamin D deficiency causes problems in bones and muscles.
  - c. Research findings show vitamin D deficiency may lead to health problems.
  - d. The best source of vitamin D improve one’s health comes from sunshine.
  - e. The U.S. researchers say that sunscreen can keep everyone from skin diseases.
2. The word *predispose* in ‘...low levels of the vitamin may predispose the body...’ (line 2) is closest meaning to...
  - a. Prevent
  - b. Result
  - c. Expose
  - d. Stimulate
  - e. relate
3. The following statements are true about the passage, except...
  - a. Diabetes can be the results of vitamin D deficiency.
  - b. More and more people experience deficiency in vitamin D.
  - c. Overweight people need to be more responsive to sunlight.
  - d. Vitamin D deficiency may cause thickened arteries.
  - e. Sunscreen can protect us from skin cancer.
4. Skin cancer is believed to be the effect of ...
  - a. Chronic vitamin D deficiency.
  - b. Excessive exposure to sunlight
  - c. Doing more indoor activities.



- d. Low levels of vitamin consumption
  - e. Lack of sun protection factor.
5. The paragraph following this passage would likely contain some information on ...
- a. Obese problems with older adults
  - b. Testing the level of vitamin D deficiency
  - c. Sunscreen effect on vitamin D deficiency
  - d. How to protect our skin from cancer.
  - e. Outdoor activities and vitamin D deficiency.

*Passage 2*

Some people go to work each day and then come home. They do it from time to time like this. They spend time with their family and friends after work. Maybe they watch TV or go to a movie. Sometimes they exercise or read. Some other enjoy their togetherness with their family in the living room telling their day's experience. This is their life. But for other people, this isn't enough. They look around their neighborhoods and see people with terrible hardship: sickness, loneliness, and homelessness. Other people see problems with the environment. Many people want to help. They volunteer. They give some of their time to help others.

Volunteers help other people in many ways. Some visit sick and lonely people. Some give their friendship to children without parents. Some build houses for homeless people. Still other share their time by helping those of the victims of natural disasters. Others sit and hold babies with AIDS.

Andy Lipkis was at a summer camp when he planted his first tree. He began to think about the environment. In many countries, people were cutting down trees recklessly. As a result, landslides, floods, and other natural disasters occurred, killing many people, damaging their properties, and washing their villages away. Andy Lipkis was worried about this. In 1974, he started a group, Tree People, to plant many kinds of trees: pine, elm, cypress, and eucalyptus. Today there are thousands of members of Tree People, and more join every day. They plant millions of trees everywhere.

6. What is the topic of the passage?
- a. Volunteering work
  - b. Effective time spending
  - c. Saving the environment
  - d. Tree People's activities
  - e. Living with hardships
7. According to the passage, the difference between volunteers and non-volunteers is that...
- a. Volunteers come back home very late almost every day.
  - b. Non-volunteers donate some money to homeless people.
  - c. Most of volunteers have part-time jobs to earn a living.
  - d. Volunteers do not spend time with their families and friends.
  - e. Non-volunteers do not spend their spare time to help others.
8. Based on the information in the passage above, what is a relevant question raised?
- a. What would a volunteers possibly do in case of refugees as war victims?
  - b. Why do people volunteer as a part of their environment concern?
  - c. A part from planting trees, what do Tree People do as their volunteering work?
  - d. How would volunteers earn their living to fulfill their daily needs?
  - e. Why should Andy Lipkis experience hardship as a volunteer in Tree People?
9. The following statements are true about the passage, EXCEPT...
- a. People do activities in many different ways.
  - b. People have different concern about environment.
  - c. Non-volunteers spend their time with their family.

- d. Andy Lipkis' groups pay attention to environment
  - e. Non-volunteers are willing to help others.
10. The paragraph following this passage most likely contains some information on...
- a. Other activities done Andy Lipkis' group
  - b. Countries where we can find Tree People
  - c. Other names of Tree People members.
  - d. Other activities done by volunteers.
  - e. Andy Lipkis experience as a volunteer.

### Passage 3

Throw out the bottles and boxes of drugs in your house. A new theory suggests that medicine could be bad for your health, which should at least come as good news to people who cannot afford to buy expensive medicine. However, it is a blow to the medicine industry, and an even bigger blow to our confidence in the progress of science. This new theory argues that healing is at our fingertips: we can be healthy by doing Reiki on a regular basis.

Supporters of medical treatment argue that medicine could be trusted since it is effective and scientifically proved. They say that there is no need for spiritual methods suggest Reiki, yoga, Tai Chi. This was waste our time, something which is quite precious in our material work. There is medicine that can kill our pain, x-rays that shows us our fracture wounds, or MR! That scans our brain from tumors. We must admit that these methods are very effective in the examples that they provide. However, there are some "every day complains" suggest take pains, headache, insomnia, which are treated currently with medicine. When you have a headache, you take an Aspirin, or Vermidon, when you cannot sleep, you take Xanax without thinking the side effects of these. When you use these pills for a long period, you become addicted to them; you cannot sleep without them. We pay huge amounts of money and become addicted instead of getting better. How about a safer and more economical way of healing? When doing Reiki to yourself, you do not need anything except your energy so it is very economical. As for its history, it was discovered in Japan in the early 1900s and its popularity has spread particularly throughout America and Western Europe. In quantum physics, energy is recognized as the fundamental substance of which the universe is composed. Reiki depends on the energy within our bodies. It is a simple and effective way of restoring the energy flow. There are no side effects and it is scientifically explained.

Opponents of alternative healing methods also claim that serious illness such as HIV/AIDS and cancer cannot be treated without drugs. They think so because these patients spend the rest of their lives in the hospital taking medicine.

How can Reiki make these people healthy again? It is very unfortunate that these patients have to live in the hospital losing their hair because of the side effect of the medicine they take. Actually, it is common knowledge that except for when the cancer is diagnosed at an early stage, drugs also cannot treat AIDS or cancer. Most of the medicine these patients use are to ease their pain and their sufferings because of the medical treatment they undergo. Instead of utilizing drugs which are expensive and have many side effects, you can use your energy to overcome the hardships of life, find an emotional balance, leave the stress of everyday life and let go of the everyday worries. Most of the chronic conditions such as eczema or migraine are known to have causes such as poor diet and stress. Deep-rooted anger or other strong emotions can contribute to viral infections and controlling our thoughts are very important for our well-being, we should definitely start learning Reiki and avoid illnesses before it is too late.

11. Which of the following statements best expresses the main idea of the passage?
- a. The existence of alternative healing methods is a disaster to the medical enterprise.
  - b. Alternative healing methods cannot overcome serious illnesses such as HIV/AIDS.
  - c. Doing Reiki and Taichi in our material world is a waste of time.
  - d. Appropriate energy management may replace medical treatment of serious diseases.
  - e. Reiki can also improve our physical and spiritual wellbeing if practiced appropriately.

12. According to the passage, an alternative method like Reiki can heal serious illness like cancer if...
  - a. It is combined with medical treatment
  - b. There is an earlier diagnosis for the illness
  - c. The method is preceded by medical check.
  - d. It is accompanied with the pain killers.
  - e. It is carried out at home on a regular basis.
13. According to the passage, certain diseases may derive from the following factors, EXCEPT...
  - a. Poor feeding
  - b. Mental pain
  - c. Rooted distress
  - d. Deep fury
  - e. Long loneliness
14. The statement '*.....healing is at our finger tips....*' (line 4) is most similar in meaning to the following:
  - a. Our finger points are useful tips that can be used to heal diseases.
  - b. To heal any diseases by a certain and regular exercise is easy.
  - c. The finger tips contain numerous nerve cells to heal certain diseases.
  - d. We have to be aware of the functions of the finger tips
  - e. Most of the diseases may come from our finger tips
15. According to the text, what does the writer suggest to readers on Reiki?
  - a. To comprehend it
  - b. To appreciate it
  - c. To experience it
  - d. To consider it
  - e. To manage it

**English Exam Paper of SNMPTN in 2010**

## Text 1

The first ancient DNA sequences to be gathered – 3400 base pairs from a 2400 – year – old Egyptian mummy – were a proof of principle. A full genome sequence would be far more informative – perhaps explaining what killed King Tut, for instance. At present, Inuk’s is the only published ancient human genome. However, a team lead by Svante Paabo and Ed Green at the Max Planck Institute for Evolutionary Anthropology in 5 Leipzig, Germany, will soon publish the complete genome sequence combined together from several Neanderthals, from between 38,000 and 70,000 years ago.

Neanderthals are not the only hominids whose genomes could be sequenced, says Willerslev. *Homo erectus*, a species that emerged in Africa about 2 million years ago, survived in east Asia until less than 100,000 years ago. If well-preserved bones can be found, a genome might be possible, Willerslev says.

Willerslev’s laboratory has just received bones from Spain belonging to *Homo heidelbergensis*, the predecessor to Neanderthals. “We are basically starting on it right now,” he says. If these genomes ever materialize – and that’s a big if – they could lead to a better understanding of how different hominid species are related, and when and where they branched off. If the genetic information is good enough, it may tell us something about the nature of past peoples – possibly even what they looked like. Ancient human genomes could give us insights into the evolution of our own species, explaining when genes involved in disease and higher cognitive skills emerged.

But DNA is not forever. As it ages, its long strands shred into ever smaller pieces. Eventually they become too small to reassemble, and all information is lost. “There seems to be a time horizon of 100,000 years or so under most preservation conditions during which intact DNA survives,” Green says. Stephan 20 Schuster at Pennsylvania State University who led the woolly mammoth genome project, thinks ancient genomic is already plateauing. Large chunks of Inuk’s genome couldn’t be filled in because his DNA had crumbled into small pieces. “We will face an uphill battle in trying to apply this to a large number of human remains,” he says.

1. With reference to the whole text, the writer mainly deals with the topic on ...
  - a. The use of ancient DNA in anthropology
  - b. The past life of the Neanderthals
  - c. The role of DNA in fossils studies
  - d. DNA research on Neanderthals
  - e. DNA engineering in the Max Planck Institute
  
2. The writer is mainly pf the opinion that tracing ancient humans’ life using their DNA ...
  - a. Is technologically possible though it has natural challenges
  - b. Promises a new horizon of understanding past illnesses
  - c. Is a new breakthrough in modern anthropological studies.
  - d. Provides a better picture of old peoples’ DNA structures
  - e. Requiring a longer chain of complete DNA sequences
  
3. The physical look of hominid species can even be reconstructed using the DNA technology under the condition that ...
  - a. The DNA forms a solid fossil in a good shape
  - b. The genetic information in the DNA is high-quality
  - c. The DNA had not been smaller in chunks
  - d. The sequence of the DNA pieces is systematic

- e. The DNA sequences can be easily reassembled
4. Based on the text, the following would be the kind of information that could be revealed about ancient people through modern genome analyses, EXCEPT ...
    - a. Typical illnesses
    - b. Thinking potentials
    - c. Evolutionary phases
    - d. Migratory directions
    - e. Nutritional patterns
  5. Based on the text, soon Darwin's human evolution theory will be most likely empirically validated, if contemporary DNA analyses are supported by the following factors, EXCEPT ...
    - a. More discovery of early human remains
    - b. Modern genomic laboratories
    - c. Expertise associated with ancient DNA
    - d. Better management in fossil excavation
    - e. Availability of complete ancient human genomes

#### Text 2

Further research, conducted by Dean Mobbs, then at Stanford University in California, uncovered a second point of activity in the brain's limbic system – associated with dopamine release and reward processing which may explain the pleasure felt once you “get” the joke. Examining one particular part of the limbic system – the ventral striatum – was especially revealing, as its level of activity corresponded with the perceived 5 funniness of a joke. “It's the same region of reward, from drugs, to sex and our favorite music,” says Mobbs. Now at the MRC Cognition and Brain Sciences Unit in Cambridge, UK. “Humor thus taps into basic rewards systems that are important to our survival.”

Yet humor is a far more multifaceted process than primeval pleasures like food. In addition to the two core processes of getting the joke and feeling good about it, jokes also activate regions of the frontal and 10 cingulate cortices, which are linked with association formation, learning and decision-making. The anterior cingulate cortex and the front insular cortex – regions that are only present in humans and, in a less developed form, great apes. Indeed, the fact that these regions are involved suggests that humor is an advanced ability which may have only evolved in early humans, says Watson, who conducted the research.

No two brains are the same, however, and how these differences are reflected in our sense of humor is the subject of much research. Men and women, for example, seem to process jokes slightly differently. Although both sexes laugh at roughly the same number of jokes, women show greater activity in the left prefrontal cortex than men. “This suggest a greater degree of executive processing and language-based decoding,” says Mobbs. As a result, women take significantly much longer than men to decide whether they find something funny, though that jokes does not seem to spoil their enjoyment of the joke. Indeed, women show a greater response in the limbic system than men, suggesting they feel a greater sense of reward.

6. Which of the following statements in the text above contains an opinion?
  - a. Basic rewards systems associated with humor are vital to human continued existence
  - b. The anterior cingulate cortex and the front insular cortex regions belong to humans
  - c. Women's limbic system reacts more responsively than men's does to a humor stimulus
  - d. Different types of reward like drugs and our favorite music are linked to the ventral striatum.
  - e. Joke funniness relates with the amount of dopamine release and reward processing

7. The part that comes before the text would most likely describe ...
  - a. Mobbs same study conducted on humans' brain limbic system sensitiveness.
  - b. Another activity found in the brain's limbic system of Mobbs' different study
  - c. A researcher's study other than Mobbs' on another activity found in the brain limbic system.
  - d. The importance of conducting a study on responses by humans' brain limbic system
  - e. The timely reaction of humans' brain limbic system to perception on humor.
  
8. The scientists see that the internal mechanisms in a human's brain related with enjoyment in having good meals are ...
  - a. More explainable than those in perceiving a joke
  - b. Less observable than pleasures in getting a prize
  - c. As quick as those in seeing funniness of a joke
  - d. More complex than those in perceiving a joke
  - e. Less clear than those of enjoyment in winning a prize
  
9. Humor is worth in these four facets. EXCEPT
  - a. Experiencing the sense of the humor itself
  - b. Having good feelings about the humor
  - c. Activating parts of the frontal and cingulate cortex
  - d. Enhancing activities in two humans' cortex areas.
  - e. Triggering more dynamic responses in all cells.
  
10. Which chart below most likely indicates the response time needed by women and men to laugh on joke?

### Text 3

John Apollos is losing weight the old-fashioned way by eating less. A whole lot less. As a volunteer in the two-year Comprehensive Assessment of Long-Term Effect of reducing Intake of Energy (CALERIE) study at Tufts University in Boston, Apollos as lowered his daily calorie intake 25% over the past eight months. The fat, not surprisingly, has melted away; the 52-year old physical trainer has lost more than 11 kg since the study began and is down to his high school weight.

Yet, that's not the real reason Apollos and other participants in the program are eating only three-quarters of what they used to. The researchers running the multicenter CALERIE study are trying to determine whether restricting food intake can slow the aging process and extend our life span. "I feel better and lighter and healthier," says Apollos. "But if it could help you live longer, that would be pretty amazing." The idea is counter intuitive: if we eat to live, how can starving ourselves add years to our lives? Yet, decades of calorie-restriction studies involving organisms ranging from microscopic yeast to rats have shown just that, extending the life spans of the semi starved as much as 50%. Last July a long-term study led by researchers at the University of Wisconsin nudged the implications of this a bit closer to our species, finding that calorie restriction seemed to extend the lives of humanlike rhesus monkeys as well. The hungry primates fell victim to diabetes, heart and brain disease and cancer much less frequently than their well-fed counterparts did.

However, there may be more than just the absence of disease operating here Anytime you go on a diet after all, you stand a good chance of lowering your blood pressure, cholesterol level and risk of diabetes and other health woes. All that can translate into extra years. With calorie restriction, usually defined as a diet with 25% to 30% fewer calories than normal but still containing essential nutrients, something else appears to be at work to extend longevity.

11. Which of the following ideas from the text above contains an opinion?
  - a. Restricting calorie consumption for longevity
  - b. Absence of disease due to controlling calorie intake
  - c. Apollos's feeling better and lighter and healthier
  - d. The melting of body fat by having less foods
  - e. Apollos's restricting his daily consumption
  
12. The study aims at evaluating the impact of calorie restriction on ...
  - a. Minimizing the risks of getting serious illnesses
  - b. Enhancing the feeling of happiness and health
  - c. Reducing the amount of extreme fat accumulation
  - d. Controlling blood pressure and cholesterol levels
  - e. Aging-process slowing and life span extension
  
13. If the information in the text is true, the risks that someone whose calorie consumption is controlled up to the portion suggested in the study suffers from bone cancer are...
  - a. Substantial
  - b. Negligible
  - c. Unpredictable
  - d. Serious
  - e. Indefinite
  
14. The following is among other things the empirical impacts of the study mentioned in the text, EXCEPT ...
  - a. Slender body shape
  - b. Long life expectancy
  - c. Good healthiness
  - d. Emotion stability
  - e. Good feelings
  
15. As mentioned in the text, the study held at multi center CALERIE, Tufts University in Boston has employed a research method that seems to be ...
  - a. Complicated
  - b. Temporary
  - c. Ultramodern
  - d. Conventional
  - e. methodological

**English Exam Paper of SNMPTN in 2011**

The most common of tsunamis are under earth quakes. To understand underwater earthquakes, you must first understand plate tectonics. The theory of plate tectonics suggests that the lithosphere, or top layer of the Earth, is made up of a series of huge plates. These plates make up the continents and seafloor. They rest on an underlying viscious layer called the asthenosphere.

Think of a pie cut into eight slices. The piecrust would be the lithosphere and the hot, sticky pie filling underneath would be the asthenosphere. On the Earth, these plates are constantly in motion, moving along each other at a speed of 1 to 2 inches (2,5-5 centimeters) per year. The movement occurs most dramatically along fault lines (where the pie is cut). These motions are capable of producing earthquakes and volcanism, which, when they occur at the bottom of the ocean, are two possible sources of tsunamis.

When two plates come into region known as a plate boundary, a heavier plate can slip under a lighter one. This is called subdiction. Underwater subdiction often leaves enormous "handprints" in the form of deep ocean trenches along the seafloor. In some cases of subdiction, part of the seafloor connected to the lighter plate may "snap up" suddenly due to pressure from the sinking plate. This results in an earthquake. The focus of the earthquake is the point within the Earth where the rupture first occurs, rocks break, and the first seismic waves are generated. The epicenter is the point on the seafloor directly above the focus.

When this piece of the plate snaps up and sends tons of rock shooting upward with tremendous force, the energy of that force is transferred to the water. The energy pushes the water upward above normal sea level. This is the birth of a tsunami. The earthquake that generated the December 26,2004 tsunami in the Indian Ocean was a 9.0 on the Richter scale - one of the biggest in recorded history.

1. Which of the following best states the topic of this text?
  - A. The birth of a tsunami
  - B. The magnitude of tsunamis
  - C. Tsunamis in the Indian Ocean
  - D. Series of huge plates on earth
  - E. Lithosphere and asthenosphere
2. The main idea of this text is that ....
  - A. deep ocean trench is a result of an earthquake
  - B. the energy of subdiction can lead to earthquakes
  - C. plate tectonics lead to an earthquake and volcanism
  - D. tsunamis in the Indian Ocean are the biggest in the history
  - E. strong movements of undersea fault lines cause tsunamis
3. Implied in the text is that the earthquake will never occur when ....
  - A. the subdiction is evidenced
  - B. seismic waves are generated
  - C. no fault line of plate tectonics happens
  - D. heavier plates and lighter ones break up
  - E. ocean trenches lie along the seashore
4. The following information is true about tsunamis mentioned in the text, EXCEPT that tsunamis are ....
  - A. predictable following any incidence of earthquakes
  - B. close to the rise of sea levels from the sinking plate
  - C. connected to deep ocean trenches along sea floors
  - D. related to strong movements of plates tectonics
  - E. highly linked to underwater earthquakes



This text is for question number 5-9!

A Spanish researcher and a Paraguayan scientist have presented the most complete and detailed European study into the repertoire of sounds used by bottlenose dolphins (*Tursiops truncatus*) to communicate. The study reveals the complexity and our lack of understanding about the communication of these marine mammals.

Until now, the scientific community had thought that whistles were the main sounds made by these mammals, and were unaware of the importance and use of burst-pulsed sounds. Researchers from the Bottlenose Dolphin Research Institute (BDRI), based in Sardinia (Italy) have now shown that these sounds are vital to the animals' social life and mirror their behavior.

"Burst-pulsed sounds are used in the life of bottlenose dolphins to socialize and maintain their position in the social hierarchy in order to prevent physical conflict, and this also represents a significant energy saving." Bruno Diaz, lead author of the study and a researcher at the BDRI, which he also manages, said.

According to Diaz, bottlenose dolphins make longer burst-pulsed sounds when they are hunting and at times of high aggression: "These are what can be heard best and over the longest period of time," and make it possible for each individual to maintain its position in the hierarchy.

The dolphins emit these strident sounds when in the presence of other individuals moving towards the same prey. The "least dominant" one soon moves away in order to avoid confrontation. "The surprising thing about these sounds is that they have a high level of unidirectionality, unlike human sounds. One dolphin can send a sound to another that it sees as a competitor, and this one clearly knows it is being addressed,"

explains the Spanish scientist.

5. It can be inferred from the text that ...
  - A. producing sounds requires a lot of energy
  - B. whistles are more complicated than burst-pulsed sounds
  - C. mother dolphins cannot make burst pulsed sounds
  - D. bottlenose dolphins avoid physical frictions
  - E. hierarchy is not vital for bottlenose dolphins
  
6. The word "these" in "These are what can be heard ...." (line 14) refers to ...
  - A. Whistles
  - B. High aggression
  - C. Hunting dolphins
  - D. Other individual
  - E. Burst-pulse sounds
  
7. The paragraph following the text most probably discusses ....
  - A. Dolphins most favorite preys
  - B. Least dominant dolphin's eating habits
  - C. Another kind of sounds made by dolphins
  - D. The characteristics of burst-pulsed sounds
  - E. Hunting dolphins use of sounds to communicate
  
8. In organizing ideas in the text the writer ....
  - A. lists reasons why scientist were unaware of burst-pulsed sounds
  - B. explains how different sounds are used by bottlenose dolphins
  - C. compares similarities between burstpulsed sounds with whistles
  - D. describes the unique characteristics of bottlenose dolphins
  - E. presents examples of bottlenose dolphins sounds
  
9. Which of the following most likely restates the gist of paragraph 22 ....

- A. Bottlenose dolphins are effective communicators
- B. Burst-pulsed sounds are used by all kinds of dolphins
- C. Burst-pulsed sounds are vital for bottlenose dolphins
- D. Whistles and burst-pulsed sounds are interchangeable
- E. Whistles are vital for bottlenose dolphins to communicate

This text is for questions number 10-15!

#### TEXT A

Human spend about a third of their lives asleep: Hence, there must be a point to it. Scientist have found that sleep helps consolidate memories, fixing them in the brain so we can retrieve them later. Now, new research is showing that sleep also seems to reorganize memories, picking out the emotional details and reconfiguring the memories to help you produce new and creative ideas, according to the authors of an article in *Current Directions in Psychological Science*.

“Sleep is making memories stronger,” says Jessica D. Payne of the University of Notre Dame, who co-wrote the review with Elizabeth A. Kensinger of Boston College. “It also seems to be doing something which I think is so much more interesting, and that is reorganizing and restructuring memories.”

Payne and Kensinger study what happens to memories during sleep, and they have found that a person tends to hang on to the most emotional part of a memory. For example, if someone is shown a scene with an emotional object, such as a wrecked car, in the foreground, they’re more likely to remember the emotional object than, say, the palm trees in the background - particularly if they’re tested after a night of sleep. They have also measured brain activity during sleep and found that regions of the brain involved with emotion and memory consolidation are active.

One of the first to go in fast-paced society is sleep. That is based on a profound misunderstanding that the sleeping brain isn’t doing anything. “In fact, the brain is busy. It’s not just consolidating memories, it’s organizing them and picking out the most salient information. Payne thinks this is what makes it possible for people to come up with creative, new ideas.

#### TEXT B

Sleep not only protects memories from outside interferences, but also helps strengthen them, according to research presented at the American Academy of Neurology’s 59th Annual Meeting in Boston. The study looked at memory recall with and without interference (competing information). Forty-eight people between the ages of 18 and 30 took part in the study. All had normal, healthy sleep routines and were not taking any medications. Participants were divided evenly into four groups - a wake group without interference, a wake group with interference, a sleep group without interference and a sleep group with interference. All groups were taught the same 20 pairs of words in the initial training session.

The wake groups were taught the word pairings at 9 a.m. and then tested on them at 9 p.m. and tested on them at 9 a.m. after a night of sleep. Just prior to testing, the interference groups were given a second list of word pairs to remember. The first word in each pair was the same on both lists, but the second word was different, testing the brain’s ability to handle competing information, known as interference. The interference groups were then tested on both lists.

The study found that people who slept after learning the information performed best, successfully recalling more words. Those in the sleep group without interference were able to recall 12 percent more word pairings from the first list than the wake group without interference. With interference, the recall rate was 44 percent higher for the sleep group.

10. Which of the following can best sum up both texts ....
- A. Sleep patterns considerably affect one’s creativity
  - B. Sleep leads recall abilities to a better performance
  - C. The longer people sleep, the better they memorize

- D. Healthy people usually sleep without interferences
  - E. Memories and regular sleep patterns affect each other
11. Based on the information in both texts, sufficient sleep ....
- A. is a sole key to memory consolidation
  - B. Optimally enhances brain functions
  - C. Will contribute to better learning
  - D. Implies absence of interferences
  - E. Helps long-term memory retrieval
12. The best topic for both texts would be ....
- A. Research on memory
  - B. Experiments on sleep
  - C. Dangers of lack of sleep
  - D. Sleep and creative thinking
  - E. Impact of sleep on memories
13. Which of the following statements represents a fact that can be found in either text?
- A. People who sleep sufficiently tend to be more creative
  - B. Sleep helps enhance one's memories and creativity
  - C. Sleep is highly needed in a busy and modern society
  - D. Enough sleep is a vital factor for critical thinking
  - E. The brain is not active when people are sleeping
14. The focus of research in both texts differs. Text A explains about ....
- A. Protection of healthy sleep routines; texts B explains about memory strength and vocabulary
  - B. Consolidation of emotion and memory; text B explains about protection of healthy sleep routines
  - C. Sleep patterns with interferences; text B explains about the role of sleep in memory recall
  - D. The role of sleep in memory and creativity; text B explains about interferences and memory recall
  - E. On memory strengths on vocabulary; text B explains about the role of sleep in memory recall

**English Exam Paper of SNMPTN in 2012**

## Text 1

By, 2050, there will be another two to three billion people on Earth, and the planet's population will consume twice as much food as now. For 50 years farmland has grown at the cost of natural habitat and biodiversity, and already more than two thirds of agricultural land is either in use or protected.

As a result, we need to develop the technology to double the output of the 10 – 15 main calorie crops, particularly if we are to alleviate the burden on developing countries of feeding a rapidly growing population, argues Jason Clay of the WWF in the journal *Nature*. He makes some strategic suggestions—described as —food wedges for Africa, the continent that faces the greatest challenge of increasing food production. Clay believes the responsible use of genetics is one of the keys. He suggests that mapping the genomes of staple food crops such as yams, plantains and cassava, and selecting genetic traits, can both increase production and improve drought tolerance, disease resistance and nutrient content.

Improving agricultural inputs and practice is also essential, he argues. It currently take one liter of water to produce one calorie of food. Even if we halved water use and doubled production, food deficiency would still increase fourfold. Technologies already exist to achieve this, but in Africa they have often not been taken up. Mulching, for example, can help rebuild soil fertility and reduce water usage, and is suitable for use even in household gardens, without need for high-tech tools.

1. What is the author's main purpose in writing the passage?
  - A. To classify the type of technology used for soil fertility
  - B. To inform the danger of population explosion in the future
  - C. To argue for the value of increased food production prospects
  - D. To explain the need for cassava as the main crop in the future
  - E. To persuade for the development of right technology for agriculture
  
2. Paragraphs 1 and 2 are related in that paragraphs 1 ...
  - A. Discusses population impact, paragraph 2 offers technological solutions
  - B. Sets the challenging situation, paragraph 2 is on the need of technology
  - C. Explains population growth, paragraph 2 develops areas of agriculture
  - D. Exposes the impact of agriculture, paragraph 2 restores the damage
  - E. Outline the population growth, paragraph 2 says its consequences
  
3. They word 'they' in.. But in Africa they have often not been taken up.' (paragraph 3 line 6) refers to ....
  - A. Technologies
  - B. Food deficiency
  - C. Agricultural inputs
  - D. Double production
  - E. Household gardens
  
4. All of the following attempts are potential to increase food production in the future, except ...
  - A. Sequencing the right genomes of staple crops
  - B. Conducting careful, attentive selection of main crops
  - C. Maximizing the use of technology to the crop output
  - D. Compost making with chemical fertilizers combination
  - E. Cultivating the likely genetic traits of main crop elements
  
5. The author views that food production producers in the future should ...
  - A. Consider the environmental aspect
  - B. Focus on the availability of water supply

- C. Always be based on new staple crops
- D. Relieve a burden for developing countries
- E. Incorporate technology to maximize output

## Text 2

Everyone likes to group things. Language students group words as verbs, nouns and so on; collection of words are classified as phrases, or clauses, or sentences, and these again are reclassified according to their function. In the same way, botanists classify plants as algae, or fungi, or gymnosperms, etc. Zoologists classify animal as vertebrates and invertebrates. The vertebrates can be further classified as mammals, reptiles, bird, fish, etc. Classification and, if it is based on the right data, enables us to understand better the ideas we are studying.

Chemists are no exception. The chemical classification of materials, if it based on a good system, should enable us to understand better the many substances which exists in our world. What is to be the basis of our classification? Perhaps the most obvious one is appearance. Material could be classified as solid, liquid or gas with some mixed types as, for example, mud being solid/liquid material and steam a liquid/gas material. Appearance could enable us to subdivide our main classify our main classification groups a little further; the solid may be green, or black powdery to crystalline; the liquid may be colored, oily, thick, or free flowing; the gas may be colored. However, we soon realize system, should enable us to understand better the many substances which exist in our world. What is to be the basis of our classification? Perhaps the most obvious one is appearance. Material could be classified as solid, liquid or gas with some mixed types as, for example, mud being solid/liquid material and steam a liquid/gas material. Appearance could enable us to subdivide our main classification groups a little further; the solid may be green, or black powdery or crystalline; the liquid may be colored, oily, thick, or free flowing; the gas may be colored. However, we soon realize that many probably quite different materials have the same appearance. Both air and the deadly carbon-monoxide gas are colorless odorless gases, but we would not like to group them as the same thing. Many different liquids are color-less water like materials.

6. The examples provided in paragraph 2 clarify that ....
  - A. Many kinds of liquid should be grouped as one
  - B. Different kinds of gas can be colorless and odorless
  - C. Material in chemistry should be classified differently
  - D. Chemistry materials have more complicated
  - E. Taxonomy can be made and applied further to other areas
7. The sentence —Chemists are no exception (paragraph 2 line 1) could possibly be restarted as ....
  - A. Chemical material can also be put into classification
  - B. Classification of chemical material is without exception
  - C. Chemist may also classify material using certain criteria
  - D. When appearance is the basis, chemicals are not involved
  - E. In material classification, chemicals should not be included
8. Paragraph 2 exemplifies the idea about classification that ....
  - A. Chemicals may be solid, liquid gaseous
  - B. Appearance is not a useful basis in chemistry
  - C. The use of colors is better than that of appearance
  - D. Both colors and appearance should be considered
  - E. Colors should be included for identifying appearance
9. How does the author organize the ideas?
  - A. Putting the main idea with examples
  - B. Presenting causes followed by effects
  - C. Interpreting different ways of classifying
  - D. Presenting the strengths of the main ideas

- E. Exposing supporting details chronologically
10. The paragraph following the passage most likely deals with the classification of ...
- Flora and fauna
  - Human sound
  - Liquids and gases
  - Human behaviors
  - Words and phrases
11. How does the author organize the ideas?
- Putting the main idea with examples
  - Presenting causes followed by effects
  - Interpreting the strengths of the main ideas
  - Exposing supporting details chronologically

## Text 3

## Passage A

Thomas Jefferson could many things. As a young man, he was a farmer and a lawyer in Virginia. He was also a scientist, an inventor, a philosopher, and an architect. He designed his own home, called Montecello. He could communicate in French, Italian, Spanish, Latin, and Greek.

Many of Jefferson's ideas became basic principles of the government of the United States. For example, he believed that—all men are created equal. That is, we are born the same and should receive the same treatment under the law. He also said that power must come from—the consent of the governed (the voters, not the leaders). He wanted free elections, a free press, and free speech. Thomas Jefferson held many important government jobs. He was ambassador to France, Secretary of State (under George Washington), Vice President of the United States, from 1801 to 1809. As President, Jefferson bought the huge Louisiana territory for the United States from France. However, he was killed on April 1865 by a well-known actor and Confederate sympathizer, John Wilkes Booth at Ford's Theater in Washington D.C.

## Passage B

John F. Kennedy was President for only three years, from 1961, but his personality and ideas changed America. He was both the first Roman Catholic and the youngest President in the history of the country. He set clear goals for America. For example, he promised that the United States would land a man on the moon before 1970.

Kennedy supported the ideas of Martin Luther King, Jr. and fought for civil right, fair housing, and program to stop poverty. He asked Congress for more money for education and medical care for elderly people.

Kennedy was against Communism. For example, when the Soviet Union put missiles in Cuba, he sent US ships to surround the island. But he believed that the best way to fight Communism was not by sending armies but by attacking poverty and injustice. He started the Peace Corps and sent Americans to over sixty countries in Africa, Asia, and South America. These young volunteers worked and lived with the people, built school, and thought farmers more modern methods. Kennedy was a man for the future. He worked to stop the testing of nuclear weapons. But on November 22, 1963, he was assassinated.

12. The topic discussed in both passages is ....
- Effort of US president to fight against Communism
  - Intentions of two men to become the US president
  - The risk of getting killed for being a US president
  - The two brilliant and charismatic US presidents
  - Great deeds done by two presidents of the US
13. The statement about Jefferson and Kennedy is true in that they both ....
- Experience a joyous end of their lives

- B. Served short periods in their presidency
  - C. Tried hard to fight poverty in their country
  - D. Bore similar ideas on uniting their country
  - E. Had development programs for their country
14. Both passages are similar in that they ...
- A. Describe two important leaders in the US
  - B. Give an illustration of the life of a president
  - C. President similar leadership of the two president
  - D. Put forward arguments against human inequality
  - E. Show the struggles to become the US president
15. The best summary for both passage is that Jefferson ....
- A. And Kennedy came from an ordinary family
  - B. Promoted human right; Kennedy at-tacked poverty
  - C. Sent a man on the moon; Kennedy threatened Cuba
  - D. Was a man of the past; Kennedy was a man of the future
  - E. And Kennedy got a similar job before going to White House
16. If Kennedy were still the US president today, he would ....
- A. Send more army to stop Communism
  - B. Fight poverty in many parts of the world
  - C. Develop the nuclear weapons more rapidly
  - D. Buy some territories like what Jefferson did
  - E. Attack countries like China, Russia, and Cuba

**English Exam Paper of SBMPTN in 2013**

## Text 1

Over this decade, employment in jobs requiring education beyond a high school diploma will grow more rapidly than employment in jobs that do not; of the 30 fastest growing occupations, more than half re-quire post-secondary education. With the average earnings of college graduates at a level that is twice as high as that of workers with only a high school diploma, higher education is now the clearest (31) ... into the middle class.

In higher education, the U.S. has been outpaced internationally. While the United States ranks ninth in the world in the pro-portion of young adults enrolled in college, we have fallen to 16th in the world in our share of certificates and degrees awarded to adults ages 25-34 — lagging behind Korea, Canada, Japan and other nations. While more than half of college students graduate within six years, the (32) ... for low-income students is around 25 percent.

Acknowledging these factors early in his administration, President Obama challenged every American to commit to at least one year of higher education or post-secondary training. (33) ... that America would once again have the highest proportion of college graduates in the world by 2020.

31. The opinion that best completes (31) is ...
- (A) Effort
  - (B) Position
  - (C) Beginning
  - (D) Advantage
  - (E) Pathway
32. The opinion that best completes (32) is ...
- (A) learning achievement
  - (B) Academic capacity
  - (C) Completion rate
  - (D) Logical understanding
  - (E) Intellectual development
33. The opinion that best completes (33) is ...
- (A) Americans will deserve higher education for their future
  - (B) Middle class Americans are invited to provide financial aids
  - (C) American students are suggested to take entrepreneurial skill
  - (D) The President has set up a new educational goal for the country
  - (E) The government recommends Americans for college education

## Text 2

Did you ride your bike to school when you were a kid? A generation ago most kids rode, walked or caught the bus to school; very few of us were dropped off by our parents at the school gate. These days most of us have experienced the daily traffic jams around schools at drop-off and pick-up times, as parents drive their children to the school gate. While there is no national data on the number of children who walk or ride to school, a recent Victorian survey found nearly half of all children are driven to school every day.

Parents choose to drop their kids at school for a number of reasons — mostly to do with safety and convenience. But experts say chauffeuring your kids to school every day could mean they are missing out on much-needed exercise and other life skills. \

Research suggests at least a third of Australian children aged 9-16 years are not getting the amount of daily physical activity recommended in national guidelines. "But this is not because children's participation in leisure or sporting activities has dropped off," says Dr Jan Garrard.

Participation in these activities has not altered much over the years, Garrard says but what has changed is the level of incidental activity children do. "When you look at countries where children are just active as part of everyday life, they do not have to be sporty. All they have to do is to get around the way the Community gets around by walking and cycling, and they get enough physical activity," she says.



34. The author develop some ideas in paragraph 2 by ...
- (A) describing parents' chauffeuring followed by its effect
  - (B) explaining reason for chauffeuring and their advantages
  - (C) discussing the function of chauffeuring and the impact
  - (D) arguing for chauffeuring practice for children's safety
  - (E) exposing how parent chauffer and its drawbacks
35. By writing the sentence "... chauffeuring your kids to school everyday could mean they are missing out on much-needed exercise and other life skills." (paragraph 2, line 2 -3), the author implies that ....
- (A) taking kids to school makes them deprived individuals when they grow up
  - (B) kids given a lift to school likely lose vital social and physical advantages
  - (C) schooling means not only learning in classes but also socializing with others
  - (D) parents spoil their kids' future social and physical life by giving them a lift
  - (E) When a child needs physical and social training, parent should facilitate them
36. Dr. Garrard's statement "... where children are just active as part of everyday life, they do not have to be sporty..." (paragraph 3line 5) may be best restated that ...
- (A) children who are active do not automatically mean they will be good at sport
  - (B) being muscular should not be the aim of children who are naturally active
  - (C) children's physical fitness is not closely relates with their daily activities
  - (D) activeness in children does not mean to make these children physically fit
  - (E) when naturally active, children need no more scheduled sport activities
37. The pat following the passage above most likely contains information on ...
- (A) advice to parents for their children to have enough physical activities
  - (B) the decreasing trend of children to do physical activities at their will
  - (C) parental motives behind chauffeuring their children to school
  - (D) reasons for children not to do fun and incidental activities
  - (E) effects of having children not to be given a lift to school.

### Text 3

Agroecologists do not always agree about what agroecology is or should be in the long-term. Different definitions of the term agroecology can be distinguished largely by the specificity with which one de-fines the term 'ecology,' as well as the term potential political connotations. Definitions of agroecology, therefore, may be first grouped according to the specific con-texts within which they situate agriculture. Agroecology is defined as the study of the relation of agricultural crops and environment. This definition refers to the '- ecology' part of 'agroecology' narrowly as the natural environment. Following this definition, an agroecologist would study agriculture's various relationships with soil health, water quality, air quality, meso- and micro-fauna, surrounding flora, environmental toxins, and other environmental contexts.

A more common definition of the word can be taken from Dalgaard et al., who refer to agroecology as the study of the interactions between plants, animals, humans and the environment within agricultural systems. Consequently, agroecology is inherently multidisciplinary, including factors from agronomy, ecology, sociology, economics and related disciplines, in this case, the '- ecology' portion of 'agroecology' is defined broadly to include social, cultural, and economic contexts as well.

Agroecology is also defined differently according to geographic location. In the global south, the term often carries overtly political connotations. Such political definitions of the term usually ascribe to it the goals of social and economic justice; special attention, in this case, is often paid to the traditional farming knowledge of indigenous populations. North American and European uses of the term sometimes avoid the inclusion of such overtly political goals. In these cases, agroecology is seen more strictly as a scientific discipline with less specific social goals.

38. The points provided in paragraph 3 of the passage explain that ...
- (A) different places tend to define agroecology scientifically
  - (B) interpreting agroecology needs to include political sides
  - (C) agroecology is associated geographically and politically
  - (D) people's aspiration of agroecology differs significantly
  - (E) nobody can define agroecology with scientific precision
39. Ideas in paragraph 2 and 3 define agroecology as shown in the consecutive relation as ...
- (A) political and interactive approaches
  - (B) general and cross authoritative sides
  - (C) multidisciplinary and restricted angles
  - (D) ecology and socio economic viewpoints
  - (E) agricultural and socio cultural perspectives
40. Based on the passage above, if someone is a genuine agroecologist, he/she will likely ...
- (A) examine social, cultural, and economic aspects
  - (B) do research on environmental and political loads
  - (C) include scientific methodology in his/ her approach
  - (D) put aside social aspect in his/her eco-logical studies
  - (E) make use of multidisciplinary
41. regarding the definition of agroecology, the author assumes that it ...
- (A) tends to denote scientific loads
  - (B) may be understood contextually
  - (C) has universal underlying values
  - (D) can be interpreted differently
  - (E) should be exclusively situated

#### Text 4

People still collect books as valuable antiques or for a hobby, but you get virtually all the information you need from the view screen of your home computer system. The computer is linked to a library — not a library of books but an electronic library where information on every subject is stored in computer memory banks. Having this service at your fingertips is like having a huge brand-new encyclopedia in your homes at all times. The computer can tell you anything you want to know, and the information is always the very latest available. There need be only one central library to which computers in homes, offices, schools and colleges are connected. At the library experts are constantly busy, feeding in the very latest information as they receive it. In theory one huge electronic library could serve the whole world!

E-books have not spelled the demise of the local library in New York. In fact, according to a new report from the Center for an Urban Future, 40.5 million people visited the city's public libraries, more than all of the city's professional sports teams and major cultural institutions combined.

The report "Branches of Opportunity" looks at the changing role of the city's libraries in the digital age. It finds that while public libraries are serving more New Yorkers than ever, they are "undervalued by policy-makers and face growing threats. "New York City's library system is a unique hybrid. Three organizations — the New York Public Library, along with the Brooklyn and Queens libraries— operate 206 local branches throughout the five boroughs.

42. Which idea in passage 5 is different from that in passage 4?
- (A) E-libraries require sophisticated IT expertise
  - (B) Access to information in e-libraries is unlimited
  - (C) Collections of e-libraries are regularly updated
  - (D) E-libraries function as a huge information bank
  - (E) In reality most people are still e-library illiterate
43. Which of the following statements is true according to both passages?

- (A) People would rather go to the library than watch sporting events
  - (B) People still dream of using libraries in spite of time and space
  - (C) Access to information in an e-library requires a good IT system
  - (D) Libraries provide quick access to free e-books and newspapers
  - (E) The role of library changes fast due to advanced IT Technology
44. Based on the information in both passages, it can be hypothesized that ...
- (A) Conventional libraries will continue de-spite of the threats
  - (B) Policies should be made to conserve common libraries
  - (C) Threats to book publishers become more serious
  - (D) Electronic libraries will gain mush popularity
  - (E) Unpopularity of ordinary libraries is obvious
45. The topic discussed in both passages is ...
- (A) the electronic library establishment in the digital era
  - (B) the importance of libraries in the computer era
  - (C) the preference to choosing public libraries
  - (D) the advanced technology in managing libraries
  - (E) the number of public library visitors in New York

**English Exam Paper of SBMPTN in 2014****Text A Part 1**

Parents send their children to school with the best of intentions, believing that formal education is what kids need to become productive, happy adult. Many parents do have qualms about how well schools are performing, but the conventional wisdom is that these issues can be resolved with more money, better teacher, more challenging curricula, or more rigorous tests. But what if the real problem is school itself? The unfortunate fact is that one of our most cherished institutions is, by its very nature, failing our children and our society.

Children are required to be in school, where their freedom is greatly restricted, far more than most adults would tolerate in their workspace. In recent decades, we have been compelling them to spend ever more time in this kind of setting, and there is strong evidence that this is causing psychological damage to many of them. And as scientists have investigated how children naturally learn, they have realized that kids do so most deeply and fully, and with greatest enthusiasm, in conditions that are almost opposite to those of school.

**Text A Part 2**

Compulsory education has been a fixture of our culture now for several generations. President Obama and Secretary of Education Arne Duncan are so enamored of it that they want even longer school days and years. Most people assume that the basic design of today's schools emerged from scientific evidence about how children learn. But nothing could be further from the truth. Schools as we know them today are a product of history, not of research. The blueprint for them was developed during the Protestant Reformation, when schools were created to teach children to read the Bible, to believe Scripture without questioning it, and to obey authority figures without questioning them. When schools were taken over by the state, made compulsory, and directed toward secular ends, the basic structure and methods of teaching remained unchanged. Subsequent attempts at reform have failed because they have not altered basic blueprint. The top-down, teach-and-test method in which learning is motivated by a system of rewards and punishments rather than by curiosity or by any real desire to know, is well designed for indoctrination and obedience training but not much else. It is no wonder that many of the world's greatest entrepreneurs and innovators either left school early (like Thomas Edison) or said they hated school and learned despite it, not because of it (like Albert Einstein).

01. What is the topic of the text above?
- (A) Restrictions on children's freedom at the US schools
  - (B) Parents' expectation on reformation in American school system.
  - (C) Restrictions on children's freedom at the US schools.
  - (D) Doubts on the effectiveness of American school systems.
  - (E) Absence of a research-based school system in the USA.
02. What is the purpose of the text?
- (A) To discuss if the American school system is truly effective to educate children
  - (B) To remind American parents that the formal school is basically a product of culture
  - (C) To tell the readers that formal schools in the USA have been constantly developed for a long time
  - (D) To review how compulsory education in the USA has met parents' expectation
  - (E) To describe how American children learn at school and in the real-life set-tings
03. Which of the following is closest in meaning to the word "qualms" (line 4)?
- (A) Beliefs
  - (B) Requests
  - (C) Remarks
  - (D) Views
  - (E) Doubts

**Text B Part 1**

The benefits of fasting must be preceded by a look at the body's progression when deprived of food. Due to the lack of incoming energy, the body must turn to its own resources, a function called autolysis. Autolysis is the breaking down of fat stores in the body in order to produce energy. The liver is in charge of converting the fats into a chemical called a ketone body, and then distributing these bodies throughout the body via the blood stream. The less one eats, the more the body turns to these stored fats and creates these ketone bodies, the accumulation of which is referred to as ketosis.

Detoxification is the foremost argument presented by advocates of fasting. "Detoxification is a normal body process of eliminating or neutralizing toxins through the colon, liver, kidneys, lungs, lymph glands, and skin. This process is precipitated by fasting because when food is no longer entering the body, the body turns to fat reserves for energy.

A second prescribed benefit of fasting is the healing process that begins in the body during a fast. During a fast energy is diverted away from the digestive system due to its lack of use and towards the metabolism and immune system. The healing process during a fast is precipitated by the body's search for energy sources. Abnormal growths within the body, tumors and the like, do not have the full support of the body's supplies and therefore are more susceptible to autolysis.

**Text B Part 2**

In addition, there is a reduction in core body temperature. This is a direct result of the slower metabolic rate and general bodily functions. Following a drop in blood sugar level and using the reserves of glucose found in liver glycogen, the basal metabolic rate is reduced in order to conserve as much energy within the body as can be provided. Growth hormones are also released during a fast, due to the greater efficiency in hormone production.

Finally, the most scientifically proven advantage to fasting is the feeling of rejuvenation and extended life expectancy. Part of this phenomenon is caused by a number of the benefits mentioned above. A slower metabolic rate, more efficient protein production, an improved immune system, and the increased production of hormones contribute to this long-term benefit of fasting. In addition to the Human Growth Hormone that is released more frequently during a fast, an anti-aging hormone is also produced more efficiently.

04. The text states all the following, EXCEPT ...
- (A) detoxification is the primary advantage of fasting
  - (B) the less one eats, the more ketone bodies are created
  - (C) one benefit of fasting is a curative process
  - (D) the most scientifically proven benefit of fasting is the feeling of rejuvenation
  - (E) there is a production in core body temperature during a fast
05. The main purpose of the text is to ...
- (A) discuss the effect of fasting
  - (B) present suggestion for fasting
  - (C) describe the benefits of fasting
  - (D) suggest methods of fasting
  - (E) inform readers about fasting
06. The pronouns "which" (paragraph 1, last sentence) refers to ...
- (A) strong fast
  - (B) the blood stream
  - (C) the body
  - (D) ketone bodies
  - (E) the liver
07. The word "deprived of" (paragraph 1, first sentence) is most similar to which of the following?
- (A) Left without

- (B) Provided with
- (C) Presented with
- (D) Giver
- (E) Supplied with

08. which is the topic of the text?

- (A) The body's progression
- (B) The function of autolysis
- (C) A ketone body
- (D) The health benefits of fasting
- (E) Detoxification in fasting

09. It is implied in paragraph 5 that the more frequently you fast, ...

- (A) the more hungry you feel
- (B) the longer you will live
- (C) the less production of hormone occurs
- (D) the less immune system your body produces
- (E) the less efficient protein is produced

#### **Text C Part 1**

What is happening in Egypt is the latest example of the Interplay between democracy, protest and government efficacy. Democracy is a way of deciding the decision -makers, but it is not a substitute for making the decision. I remember an early conversation with some young Egyptians shortly after President Mubarak's downfall. They believed that, with democracy, problems would be solved. When i probed on the right economic policy for Egypt, they simply said that it would all be fine because now they had democracy: chance of working.

I am a strong supporter of democracy. But democratic government does not on its own mean effective government. Today, efficacy is the challenge. When governments do not deliver, people protest. In fact, as Turkey and Brazil show, they can protest even when, on any objective basis, countries have made huge progress. But as countries move from low to middle income status, the people's expectations rise. They want quality services, better housing, good infrastructure, especially transport.

This is a sort of free democratic spirit that operates outside the convention of democracy that elections decide the government. It is enormously fueled by social media, itself a revolutionary phenomenon. And it moves very fast in precipitating crisis. It is not always consistent or rational. A protest Is not a policy, or a placard a programm for government. But if governments don't have a clear argument with which to rebut the protest, they're in trouble.

#### **Text C Part 2**

In Egypt, the government's problems were compounded by resentment at the ide-ology and intolerance of the Muslim Brotherhood. Across the Middle East, for the first time, and this is a positive development, there is open debate about the role of religion in politics. Despite the Muslim Brother-hood's superior organization, there is probably a majority for an intrinsically secular approach to government in the region.

Society can be deeply imbued with religious observance, but people are starting to realize that democracy only works as a pluralistic concept where faiths are respected and where religion has a voice, not a veto. For Egypt, a nation with an immense and varied civilization, around 8 million Christians and a young population who need to be connected to the world, there Isn't really a future as an Islamic state that aspires to be part of a regional caliphate.

10. Which of the following is TRUE according to the text?

- (A) Muslim Brotherhood insists to replace secular government into Islamic one
- (B) The author perceives negatively the cur-rent political trend In Egypt
- (C) Egypt is the largest country in the Middle East
- (D) Egyptian society do not like mixing religion and politics
- (E) Religion's role is Important in democracy to voice the truth

11. The purpose of the text is to ...
- (A) inform readers about democracy in Egypt
  - (B) describe the system of democracy In Egypt
  - (C) tell readers about the government problems in Egypt
  - (D) publicize conditions of Egypt after Mubarak's downfall
  - (E) give a suggestion of how democracy can work in Egypt
12. In which paragraph does the author mention that democracy does not correlate with the government efficacy?
- (A) 1
  - (B) 2
  - (C) 3
  - (D) 4
  - (E) 5
13. Which of the following can best replace the word “rebut” (paragraph 3, last sentence)?
- (A) Stop
  - (B) Reject
  - (C) Rebuke
  - (D) Counter
  - (E) Calm down
14. What can be inferred from paragraph 2?
- (A) Government efficacy is more Important than democracy
  - (B) Democracy does not guarantee for wealth to occur
  - (C) There are no people protests in poor countries
  - (D) There is no democracy when there is no protest
  - (E) Democracy means to serve the people
15. Which of the following best describes the organization of the text?
- (A) A criticism of the effect of democracy in Egypt
  - (B) An explanation of problems of democracy In Egypt
  - (C) An example of the interplay between democracy, protest, and government efficacy
  - (D) A comparison between democracy in Egypt and In other countries
  - (E) A description of what democracy is in the middle East

**English Exam Paper of SBMPTN in 2015**

Problems 76, 77, and 78 are based on the following passage.  
Choose one option that best completes the blank spaces in the passage.

The present study sought to document the word reading and comprehension levels attained by children who were implanted by 5 year of age. It was hypothesized that the improved speech perception abilities acquired with cochlear implantation would promote phonological coding skills. (1) ...

Three subtests of diagnostic reading assessment batteries standardized on hearing children were administered to 181 children between 8 year 0 month and 9 year 11 month of age who had 4 to 6 years of implant experience. (2) ... It included a lexical decision task, a rhyme task, and the digit span subtest of the Wechsler Intelligence Scale for Children.

Over half of the children scored within the average range for their age compared with the normative data for hearing children. (3) ... They were higher nonverbal intelligence, higher family socioeconomic status, and later onset of deafness between birth and 36 months.

76. Which option best completes (1)?

- (A) The finding showed that the hypothesis was accepted.
- (B) The implantation was eventually shown to be successful.
- (C) The following paragraph would discuss the findings of the study. The objective of the study was to see the subjects' reading skills.
- (D) It would also facilitate the acquisition of beginning reading skills.

77. Which option best completes (2)?

- (A) Likewise, the children were obliged to take a reading test.
- (B) In addition, a battery of processing measures was administered.
- (C) However, standard measurement was applied to test the subjects.
- (D) Consequently, the assessment was used to evaluate the reading skills.
- (E) Instead, an interview consisting of many different tasks was conducted.

78. Which option best completes (3)?

- (A) The results were categorized based on the subjects' status.
- (B) Data were collected on the basis of several different items.
- (C) Reading competence was associated with three aspects.
- (D) The subjects consisted of different age children.
- (E) Findings showed various levels of reading skills.

**Questions 79-84 are based on the following passage.**

Ginger, nuts, fatty fish, and whole grains are just some of the many foods that have been publicized to have anti-inflammatory properties. But do they work? It turns out that experts agree that eating a diet rich in such foods may in fact help lower the levels of inflammation in the body. However, they stress that adding or increasing the consumption of any one food is likely not going to have a profound effect on one's health.

In a new, small study, researchers found that men who consumed flaxseed for 42 days experienced a significant decrease in inflammatory markers compared with men who did not consume flaxseed. In another study, the authors found that taking ginger root extract appeared to reduce markers of colon inflammation. In addition, according to the results of a study, curcumin, which is the main compound in the spice turmeric, which is used in curry, could help suppress biological mechanisms that lead to the inflammation in diseases of the tendons. Rheumatoid arthritis, cardiovascular disease, and diabetes are some of the conditions that have been linked with higher levels of inflammation.



However, Kirkpatrick stressed that adding just one specific food to your diet is unlikely to work wonders for lowering inflammation, or for improving health in general. Kirkpatrick also stressed that people who take dietary supplements do not get the same results as those who consume real foods that have anti-inflammatory properties. Moreover, in order to lower inflammation through diet, it is also important to stay away from foods that can promote inflammation, such as sugar, she said. "So it is not just about adding these things in, it is also about taking pro-inflammatory foods out," Kirkpatrick said.

"Food is medicine, but it is hard to compare medicine that is created in a lab with something that is grown in the ground to determine what is going to be beneficial," Kirkpatrick said. Depending on a person's condition, and the reasons for their inflammation, medication may be necessary, while food can be still a nice add-on.

79. The conditions required to reduce the inflammation stated in paragraph 2 are found in paragraph (s) ....

- (A) 1
- (B) 3
- (C) 4
- (D) 1 and 3
- (E) 2 and 4

80. Based on the passage, which of the following reflects the idea of relationships between consuming ginger, nuts, fatty fish, and whole grains and health?

- (A) Thirst and drinking
- (B) Age and physical strength
- (C) Learning efforts and grades
- (D) Sleeping hours and body freshness
- (E) Bodily exercise and physical growth

81. The argument in the last line of paragraph 4 assumes that ....

- (A) having a balance diet can help reduce inflammation
- (B) consuming more curry is good to avoid inflammation
- (C) getting medication is a better way to solve inflammatory problems
- (D) taking foods with anti-inflammatory materials can cure inflammation
- (E) studies on the influence of foods with anti-inflammatory property are consistent

82. The possible role of anti-inflammatory foods is best described in paragraphs ....

- (A) 1 and 2
- (B) 1 and 3
- (C) 2 and 3
- (D) 2 and 4
- (E) 3 and 4

83. Paragraph 3 implies that ....

- (A) a well-proportioned diet is good to reduce inflammation
- (B) carbohydrate is the source of pro-inflammatory foods
- (C) pro-inflammatory foods should not be in the diet list
- (D) various anti-inflammatory supplements work better
- (E) the nature of anti-inflammatory foods is still secret

84. Which of the following best restates the idea of paragraph 2?

- (A) The inflammation, a study found, is caused by improper biological mechanism.
- (B) Some studies showed that anti-inflammatory foods could lower inflammation.
- (C) The studies conclude that consuming the extract shows to be more effective.

- (D) Anti-inflammatory foods are factually spicy foods we consume every day.
- (E) Inflammation results in arthritis, cardiovascular disease, and diabetes.

**Questions 85-90 are based on the following passage.**

Gardeners and homeowners might sometimes need to add nitrogen fertilizers to their gardens and lawns to provide just the right food for their plants. The amount used typically depends on plant and seed instructions as well as on the other sources of nitrogen, such as manure, already applied to the soil. While an addition of nitrogen to the lawn and garden may be necessary, homeowners often use more than what is recommended, and over time this excess nitrogen pollutes water and air. Nitrogen at higher levels causes a loss of certain plant species, depletion of soil nutrients, death of fish and aquatic organisms, and contamination of drinking water.

Though nitrogen serves to aid plants in their growth, weeds and nonnative plants tend to grow more readily with additional nitrogen supplies. Other plants that have lower nitrogen needs end up dying, causing a decline in native species, according to the Ecological Society of America (ESA). In California, for example, it is reported that too much nitrogen encourages the growth of nonnative grasses and kills off lichens on trees. In the coastal areas of the western United States, soils have higher levels of nitro-gen, which feed nonnative grasses. The shift in plant species increases the chances of wildfires because these new grasses are flammable.

In the soil, too much nitrogen also creates an imbalance of nutrients that causes a depletion of other important minerals such as calcium, phosphorus, and magnesium. While fertilizer overuse causes this change, nitrogen-polluted air, caused by nitrates from automobiles and industrial plants, also results in this acidification of the soil when acid rain falls. When the nitrogen abundance reduces important minerals, toxic elements such as aluminum can proliferate and harm plants as well as fish in rivers.

When nitrogen levels in rivers and streams increase, they aid in algae over-growth. As algae dies and decomposes, organic matter in the water increases. This process uses up oxygen, causing levels to drop. Without the oxygen, fish, crabs and other aquatic life die. In the San Francisco Bay Delta, for example, blue-green algae blooms occur in numbers during the warmer months, especially when the conditions such as increased nitrogen occur. Researchers at the Woods Hole Oceanographic Institution say these algae blooms, which can appear in different colors, produce toxins that can be harmful.

A soluble substance, nitrogen soaks deeply into the soil after a rainstorm or after irrigation, reaching ground water and nearby wells. When babies under a year old and elderly people ingest water with high nitrogen levels, they can develop symptoms such as gastrointestinal swelling and irritation, diarrhea, and protein digestion problems, according to the University of Nebraska- Lincoln Extension. Because nitrogen is odorless and colorless, only testing can determine whether contamination has occurred.

85. According to the passage, which of the following best shows the author's bias?

- (A) The need of fertilizer to increase agricultural production.
- (B) Blooms of algae in spring but leaving polluted waters afterwards.
- (C) Change of plants in the forest and forest fire because of nitrogen.
- (D) Growing of unwanted plants and plants extinction caused by nitrogen.
- (E) Nitrogen as a useful supplement for plants, be it in the air, water, or soil.

86. In connecting the idea in paragraph 2 and that in paragraph 3, the author ....

- (A) shows evidence why change of plants causes forests more vulnerable from fire
- (B) gives further impacts of nitrogen not only on soil but also in water and air
- (C) argues that nitrogen harms not only plants and animals, but also humans
- (D) provides a reason why the change of plants may occur in forests
- (E) states the characteristics of nitrogen in the nature

87. What is the author's attitude towards overuse of nitrogen?
- (A) Pessimistic
  - (B) Concerned
  - (C) Mindful
  - (D) Critical
  - (E) Neutral
88. The paragraph following the passage will most likely discuss ....
- (A) a case of polluted water contaminated by nitrogen
  - (B) trainings on how to use fertilizers wisely to possible users
  - (C) results of testing an area possibly contaminated by nitrogen
  - (D) a case of plant change because of nitrogen excess in the soil
  - (E) efforts to reduce acid rains to avoid nitrogen contaminating wells
89. Which of the following best summarizes ideas of the passage?
- (A) In the long run, fertilizers will bring more harms than benefits to environments.
  - (B) Nitrogen can help plants grow, but it is potential to pollute soil, water, and air.
  - (C) Use of fertilizers is the major cause of nitrogen excess in the soil and water.
  - (D) Acid rain in the environment has the potential to bring revolution of plants.
  - (E) Nitrates together with other elements in the atmosphere form acid rains.
90. Based on the passage, it can be hypothesized that the more ....
- (A) houses, the more nitrogen excesses
  - (B) polluted soil, the more crop problems
  - (C) fertilizers, the more agricultural products
  - (D) nitrogen, the more acid rains and plant shifts
  - (E) industrial areas, the more polluted air and soil

**English Exam Paper of SBMPTN in 2016**

Text 01-03.

There have been a number of differences in the way geography is now to be approached in the National Curriculum. It was decided that there would be a renewed emphasis on spatial knowledge, as well as the human and physical processes. This should cover some technical procedures such as using grid references. There should also be a renewed commitment towards the concept of fieldwork and the use of maps, as well as written communication.

Dealing with geography, the National Curriculum includes certain topics, but not necessarily how they should be taught. For example, the focus at key stage 1 is developing knowledge about the United Kingdom and the world. Students should study certain fact such as the world's seven continents and their locations. They should be able to name and identify the four countries and capital cities of the UK. Trips to London may include extra-curricular education that can aid students' understanding of the United Kingdom. They also should be able to identify seasonal weather patterns, identify hot and cold areas of the world, and use world maps and globes to identify the UK and other countries and oceans.

As they progress to key stage 2, students are expected to extend their knowledge to include Europe, North, and South America as well as significant human and physical features. They should be able to identify the position of latitude, longitude, the Equator and other large features of the world such as the Tropics of Cancer and Capricorn. Students at key stage 2 should study more physical geography including the climate zones, biomes and features such as volcanoes and earthquakes. Trips to destinations such as Iceland could encourage further learning about some of the world's physical geography. There is a huge emphasis on geographical skills at this stage. Students should be able to use the eight points of a compass, four and six-figure grid references and keys on Ordnance Survey maps in order to develop their knowledge.

01. What is the topic of the passage?
  - (A) The art of teaching geography.
  - (B) The world's physical geography.
  - (C) Topical approaches in teaching geography.
  - (D) Different strategies in teaching geography.
  - (E) The geographical topics in the national curriculum.
  
02. The underlined word 'seasonal' in paragraph 2 means ....
  - (A) serial.
  - (B) cyclical.
  - (C) current.
  - (D) regular.
  - (E) situational.
  
03. According to the passage, key stage 2 focuses more on ....
  - (A) the Tropics of Cancer and Capricorn.
  - (B) broader geographical abilities.
  - (C) patterns of climate change.
  - (D) geographical physics.
  - (E) the trip to Iceland.

Text 04-07.

Over the last two decades, the use of ICT has been an important topic in education. On the one hand, studies have shown that ICT can enhance teaching and learning out-comes. For example, in science and mathematics education, scholars have documented that the use of ICT can improve students' conceptual understanding, problem solving, and team working skills. Consequently, most

curriculum documents state the importance of ICT and encourage school teachers to use them. (A) However, teachers need to specifically trained in order to integrate ICT in their teaching.

Schools are known to be resistant to innovation and change. However, the spread of ICT is beginning to affect how teachers teach. One of the current issues about the use of ICT is how it is integrated into the curriculum. The curriculum document provide arguments for introducing ICT in the school setting. There-fore, schools expect that graduates from teacher education programs have a reasonable knowledge of how to use ICT. (B) However, this may not be the case because most current teachers' pre-service preparation, and subsequent in-service courses were designed by using traditional educational technology and settings. Thus, the participants in these courses are not familiar with the processes, interaction patterns, features, and possibilities of teaching learning processes based on ICT.

This issue becomes complicated because the students' thinking skills are often weak. Also, they typically lack information literacy skills although they were born in or after 1982. In addition, they belong to the "Net Generation". (C) Furthermore, they are accustomed to operating in a digital environment for communication, information gathering, and analysis. The problem is that students do not have to understand how their use of technology affects their habits of learning.

(D) Effective development of pre-service teachers' ICT proficiency does not seem to be a direct process, but is the one asking for a careful, complex approach. First, a need assessment is important to find out what ICT skills and knowledge teachers need at schools. Second, designers of teacher education programs should know the pre-service teachers' perceptions of ICT and their attitudes toward ICT integration into curriculum. Third, teacher education programs need to consider the two typical arguments that support the ICT use in schools.

04. With the statement „One of the current issues about the use of ICT is how it is integrated into the curriculum' in paragraph 2, the author intends to ....

- (A) emphasize the need for teachers with good literacy in technology.
- (B) explore the reasons for including ICT in the curriculum document.
- (C) explain the curriculum documents for ICT introduction in education.
- (D) argue the current teachers already have good knowledge of using ICT.
- (E) show that teacher education programs have been running expected ICT curriculum.

05. The author's idea of the relationship between the use of ICT and learning outcome is analogous with ....

- (A) vitamin - health.
- (B) speed - aeroplane.
- (C) harvest - irrigation.
- (D) cellphone - crime.
- (E) books - intelligence.

06. The assumption the author has about teacher education programs is that ....

- (A) the programs have introduced a reasonable knowledge of how to use ICT.
- (B) the programs have found out what ICT skills and knowledge the teachers need.
- (C) the programs have given materials related to the pre-service teachers perceptions of ICT.
- (D) the programs were still designed in reference to traditional educational technology and settings.
- (E) the programs have participants who are familiar with the processes of techno-logy-mediated educational transactions.

07. Which tines of the passage illustrate the ideal ICT teacher education programs most effectively?

- (A) sentence(s) A in the passage
- (B) sentence(s) B in the passage
- (C) sentence(s) C in the passage
- (D) sentence(s) D in the passage
- (E) all the sentences in the last paragraph.

Text 08-11.

Our ancestors destroyed most of our natural areas before anyone had a chance to study or to try to understand them. As a result, we have lost the opportunity to learn about these areas and the benefits and opportunities they might have yielded. Today our remaining natural areas serve important roles in the study of ecology, botany, zoology, geology, and soil science. They provide controls for comparison against managed or exploited resources. They also provide educational and cultural information important in the study of science, local history, conservation, and nature studies such as bird-watching, insect study, and tree identification.

Preservation of natural areas also provides many practical benefits. For example, natural areas contain the biological raw materials necessary for the development of products that could greatly benefit the health and well-being of a man. A new wonder drug or fine industrial product may exist now only in some inconspicuous organism harboured in a nature preserve. Up to approximately half of the drugs currently in use contain derivatives of wild plants, yet only a small percentage of all plants have been investigated for their potential in such uses. The need to protect the remaining 98 percent of natural areas until they can be researched is obvious.

From a genealogical standpoint, we have roots linking us to our ancestors. With so many of our natural areas now gone, those that remain are a vital link to the past. They can help us and future generations better understand the landscape and natural resources from which the pioneers molded their lives.

Certainly, one of the most important benefits to be derived from natural areas is the perceptive-recreational benefit they provide. This is evidenced by the increasing numbers of people turning to the nature preserve in order to escape briefly from the hustle-bustle of fast-paced society. The quiet environment of nature calms the monotony in our daily lives whether from skyscrapers and pavement or unbroken horizons of corn and beans. Healthy natural areas can offer substantial economic benefits to our communities as well. Wetlands, for example, help with flood protection and the removal of pollutants from our water supply.

08. Paragraph 4 implies that ....

- (A) the number of people turning to the nature preserves becomes more and more.
- (B) we cannot see any skyscrapers and pavement due to natural preservation.
- (C) preservation of natural areas can help us throw away our stressful days.
- (D) nature preserves briefly lighten busy life of urban environment.
- (E) quiet enjoyment of nature creates better daily lives.

09. The sentence „Our ancestors destroyed most of our natural areas before anyone had a chance to study or try to understand them’ in the first paragraph can best be restated as ....

- (A) after we had an opportunity to deeply study our natural areas, most of them had been destroyed by our ancestors
- (B) we had an opportunity to deeply study our natural areas although most of them had been destroyed by our ancestors.
- (C) most of our natural areas had been destroyed by our ancestors, besides, we had an opportunity to deeply study them.
- (D) before most of our natural areas had been destroyed by our ancestors, we had an opportunity to deeply study them.
- (E) we might have had an opportunity to deeply study our natural areas if most of them had not been destroyed by our ancestors.

10. Which of the following obviously shows the authors bias about natural areas?

- (A) As a result, we have lost the opportunity to learn about these areas and the benefits and opportunities they might have yielded.

- (B) Wetlands, for example, help with flood protection and the removal of pollutants from our water supply.
- (C) The need to protect the remaining 98 percent until they can be researched is obvious.
- (D) With so many of our natural areas now gone, those that remain are vital link to the past.
- (E) Preservation of natural areas also provides many practical benefits.

11. The organizational pattern of passage is ....

- (A) listing order.
- (B) time order.
- (C) classification.
- (D) cause-effect.
- (E) comparison-contrast.

Text 12-15.

According to the latest New York Times poll, most Americans are troubled by performance-enhancing drugs, which they believe are widely used by the nation's athletes. The public believes that professional athletes in major American sports leagues use steroids to a greater degree than American Olympic athletes do. But the prospect of achievement through illicit means in the Winter and Summer Olympics is more troubling. Also, younger Americans are much less troubled by drug use in sports and believe it to be more widespread than do Americans age 30 and above.

After recent revelations about the use of performance-enhancing drugs in football, baseball, and track-and-field, 43 percent of those polled said they believe that at least half of professional athletes in the United States use steroids. In comparison, 18 percent of those surveyed said they believe that at least half of American Olympic athletes use banned performance-enhancing substances.

While 61 percent of Americans said they were bothered by the use of steroids among professional athletes. 75 percent said they were concerned about the use of performance-enhancing drugs among Olympic athletes. This response seem to be based partly on the ideal that American Olympic spoils are purer than professional sports, and on the widely held belief that Olympic athletes are still amateurs. "The Olympics are pure and clean," Jason Mannino, 32, a tax assessor, said. "We want these kids to be all on the same playing field. A lot of these kids are trying to make a name for themselves purely on their athletic ability, and they are not getting high-dollar contracts to perform. They are performing out of pride for the country and out of pride for getting a gold medal." In fact, the Olympics have been open to professionals since the late 1980's. And most of the drug scandals in recent years have involved sports related to the Olympics.

12. What is the author's attitude towards topic of the passage?

- (A) Tolerant.
- (B) Unhappy.
- (C) Worried.
- (D) Critical
- (E) Unconcerned.

13. The paragraph following the passage will likely talk about ....

- (A) drug use by Olympic athletes.
- (B) the opinions of young people and those above 30.
- (C) what the surveyor think about drug use.
- (D) what is being done about the problem.
- (E) what the problems will lead to.

14. Which of the following is the best summary of the passage?

- (A) Most Americans are worried about the widespread use of steroids among athletes and they believed that professional athletes used more drugs than American Olympic athletes do, but the fact that the latter make use of drugs made many more concerned.

- (B) Many Americans are worried about the fact that many professional American athletes were using drugs; however, they did not think that Olympic athletes used steroids because they were not playing for the money, but for their country.
  - (C) Some Americans are bothered about the widespread use of drugs among athletes, both professional and Olympic athletes and they believed the latter should not be taking the drugs.
  - (D) Although many Americans believed that at least half of the professional athletes used drugs they don't believe that Olympic athletes use them because they are still amateurs.
  - (E) Most Americans are worried about the widespread use of drugs among professional as well as national athletes.
15. Based on the passage, many American athletes ....
- (A) both professional and amateur, will be disqualified if drug tests are done stringently.
  - (B) would not be able to achieve what they have achieved if they had taken drugs.
  - (C) involved in professional sports would do much better if they stayed away from steroid.
  - (D) would be able to break more records if they had not been taking illicit drugs.
  - (E) will not be taking steroids if they are not competing.



**English Exam Paper of SBMPTN in 2017****TEXT A**

In today's economy vocational jobs are becoming more and more important. This is why vocational education programs are popular. Vocational education training provides career and technical education to interested students. These students are prepared as trainees for jobs; jobs that are based upon manual or practical fields or jobs that are related to specific trades, occupations, and vocations. Instructors teach students the knowledge required for their field. Community colleges have long been offering vocational education. These colleges around the country provide certificates in various vocational fields. They also offer certain degree programs that focus on some popular occupations. The vocational field expands each year to include new fields.

The training for vocational jobs requires less education than four year degree programs. They are also much less expensive. Instructors at this level of education use traditional methods of teaching. They use lesson plans, teacher resources, worksheets, and other tools in this process. One difference to other education programs is the on-the-job training component. Many students will have the opportunity to work in their field while being educated. Some will be accepted into valuable apprenticeship programs. Some of the jobs in vocational fields include construction workers, blacksmiths, and steel workers. Today, there are other great choices of vocational jobs. These include retail, tourism, and cosmetology. Also, there are some portions of the information technology field taught. This allows students to decide from a variety of career choices.

The retail field is one of those growing career opportunities. Workers can start as trainees and then reach management position. Most retail companies have their own training programs for specific jobs. These make retail even more welcoming to new employees. Tourism is also a great field to consider in the vocational field. This area includes planning trips to being a tour guide.

01. What is the topic of the passage?
  - (A) Jobs based upon manual or practical fields.
  - (B) Increased opportunities for vocational career.
  - (C) Vocational education for vocational jobs.
  - (D) Variety of choices of vocational jobs.
  - (E) Training programs for vocational jobs.
  
02. The word "manual" in paragraph 1 means ....
  - (A) hand-operated
  - (B) customary
  - (C) doable
  - (D) habitual
  - (E) concrete
  
03. The following statements are true based on the passage, except ....
  - (A) tourism is a potential field in vocational education
  - (B) every year new areas of vocational education are developed
  - (C) on-the-job training is a typical component of vocational education programs
  - (D) retail companies open new opportunities for vocational jobs
  - (E) now a days young people prefer practical jobs

**TEXT B**

The applications, games, and websites that are promoted as 'educational' are not always the best ones for supporting learning. The fact that they are interactive does not necessarily mean that they are much better than an old-fashioned workbook with its right and wrong answers. Children may enjoy these products for a while but then get a bit bored. Thus, they are not the most appropriate or engaging way to learn.

Treat so-called 'free' applications with caution. Some will expose your child to advertisements. Others are designed to wait until your child is engaged in a game or storyline and then demand

payment before they can go any further. This can lead to frustration as young children do not understand why they cannot continue. Sometimes it is better to make a small payment in advance if the application promises no further purchases. However, some applications are free to download and completely free of advertisements or in-app purchases. Choosing an app needs the same kind of thought and care you would put into buying anything else for your child. Do not rely only on the star rating. Instead, read the user re-views and check the privacy policy if you are worried about the personal information that the app might be collecting. If you want your child to enjoy learning, develop curiosity, and think about things creatively, provide them with a range of games and apps. Open-ended games have become progressively more challenging and encourage children to explore and have fun. They are, therefore, more likely to establish a love of learning and to lay the foundation for their future development.

Physical activity, reading, and other more 'traditional' activities continue to play a very important part in children's development. But, most parents do rely on screen devices from time to time to engage their child while they are busy with something else. This is not a problem in itself, just as long as children's time is made up of a balanced range of activities.

04. The author reminds readers to be more careful with commercialism in free applications in paragraph(s) ....

- (A) 1
- (B) 2
- (C) 3
- (D) 1 and 4
- (E) 2 and 3

05. How does the idea in sentence 6 relate to the other ideas in paragraph 2?

- (A) Sentence 6 elaborates the other ideas in paragraph 2.
- (B) Sentence 6 is the result of the other ideas in paragraph 2.
- (C) Sentence 6 strongly contradicts the other ideas in paragraph 2.
- (D) Sentence 6 is the implementation of the theory discussed in paragraph 2.
- (E) Sentence 6 provides another type of free applications discussed in paragraph 2.

06. The author would apparently agree that ....

- (A) open-ended games can stimulate children's love for learning
- (B) some games and applications are boring because they are too easy
- (C) there is no convincing prediction for the future of the games and apps
- (D) it is better to pay for games in advance so that children can learn freely
- (E) apps star rating provides users with re-views on the good things of games and apps

07. Regarding busy parents' reliance on screen devices to help keep their children entertained, the author assumes that ....

- (A) it is the parents' responsibility to make their children less engaged with screen devices
- (B) children whose parents are busy with their activities must use screen devices less
- (C) parents need to be aware of their children's need for varied activities
- (D) such parents' reliance is acceptable as long as the children are given the right proportion of other activities
- (E) it is not tolerable as their children need to have more physical activities

#### TEXT C

The latest round in an ongoing debate over global-warming trends claims that warming has indeed slowed down this century. An obvious slowing in the rise of global temperatures was recorded at the beginning of the twenty-first century. This was referred to as a "hiatus" or a "pause". This hiatus was first observed several years ago. Climate-change skeptics have used this as evidence that global warming has stopped permanently. But in June last year, a study in science claimed that the hiatus was just an artifact which disappears when biases in temperature data are corrected.

Now a prominent group of researchers is countering that claim. They argue in Nature Climate Change that even after correcting these biases the slowdown was real. "There is this mismatch between what the climate models are producing and what the observations are showing," says lead author John Fyfe. Fyfe is a climate modeler at the Canadian Centre for Climate Modeling and Analysis in Victoria. "We can't ignore it." Fyfe uses the term "slowdown" rather than "hiatus". He also stresses that it does not in any way weaken global-warming theory.

The debate turns in part around statistics on temperature trends. The study that questioned the existence of the slowdown corrected known biases in the surface temperature record maintained by the US National Oceanic and Atmospheric Administration (NOAA). The finding showed differences in temperature readings from ships and buoys. This effectively increased the record about warming. The researchers also extended the record to include 2014. This set a new record high for average temperatures.

Thomas Karl, director of National Centers for Environmental Information in Asheville, calculated the rate of global warming between 1950 and 1999 as being 0.113°C per decade. This was similar to the 0.116°C a decade calculated for 2000-14. This, Karl said, meant that an assessment done by the influential Intergovernmental Panel on Climate Change in 2013 showing that warming had slowed was no longer valid. Therefore, it can be concluded that global warming is a fabricated issue.

08. Which of the following best restates the sentence "Climate-change skeptics have used this as evidence that global warming has stopped" in paragraph 1?

- (A) Climate-change believers have used global warming as evidence to stop this.
- (B) This has been used as a proof by climate-change disbelievers to claim that global warming has come to an end.
- (C) That global warming has come to an end has been used by climate change believers as a proof.
- (D) This has been exploited by climate-change disbelievers as a proof to stop global warming.
- (E) This can be used as evidence to stop climate change disbelievers.

09. How does the author organize paragraph 2?

- (A) A claim is followed by a description about this claim.
- (B) A claim is followed by contrasting arguments about it.
- (C) A claim is followed by quotations from an expert.
- (D) A problem is followed by some solutions.
- (E) A cause is followed by several effects.

10. It can be inferred from paragraph 2 that John Fyfe is ....

- (A) a disbeliever of hiatus theory
- (B) a proponent of climate change
- (C) an opponent of climate change
- (D) a modeler at the Canadian Centre for Climate Modeling and Analysis
- (E) a debater at the Canadian Centre for Climate Modeling and Analysis

11. Which of the following obviously shows the author's false idea?

- (A) An obvious slowing in the rise of global temperatures was recorded at the beginning of the twenty-first century.
- (B) Fyfe is a climate modeler at the Canadian Centre for Climate Modeling and Analysis in Victoria.
- (C) The finding showed differences in temperature readings from ships and buoys.
- (D) Thomas Karl calculated the rate of global warming between 1950 and 1999 as being 0.113°C per decade.
- (E) It can be concluded that global warming is a fabricated issue.

#### TEXT D

Young people have put the spotlight on mental health in Mission Australia's Youth Survey this year, naming it as one of the top three issues facing Australia. The survey found concerns about mental

health across the country that have doubled alarmingly since 2011. About 22,000 young people aged 15 to 19 took part in the survey and more than 20 per cent cited mental health as among their top national issues. Alcohol and drugs were cited as their top concern, followed by equity and discrimination.

Mission Australia chief executive Catherine Yeomans said concerns about mental health were at their highest level in the survey's 15-year history. "If young people are telling us that they think this is one of the top three concerns facing the nation, then we should sit up and pay attention and we should think about whether we've got the right responses in place," she said. "Let's look at the issues and put in programs that are going to support young people."

The results did not surprise 19-year-old Savannah van der Veer, who has managed depression and obsessive compulsive disorder for more than a decade. "People don't take you seriously, they just assume all children are kind of moody and unusual - they do strange things that don't make sense," she said. "But I was really suffering and I didn't really know how to talk about it and I didn't really know that what was happening to me wasn't normal." Miss van der Veer said she turned to her mother and counselors for support.

Youth mental health group Batyr held more than 150 workshops in Australian high schools last year. The program is facilitated by young people who have experienced mental health issues. "What our programs are designed to do is to make it OK to not be OK - to show young people that there are people out there like them who are suffering and going through tough times but that we can talk about it as a group," chief executive Sam Refshauge said. The sessions incorporate music and activities to shift negative stigma around mental health issues.

12. What topic does the paragraph preceding the passage most likely discuss?
  - (A) Alcohol and drugs
  - (B) Mental health of adults
  - (C) Equity and discrimination
  - (D) Mission Australia's Youth Survey
  - (E) Mental problems faced by Australians
  
13. What is the author's attitude toward the topic of the passage?
  - (A) Concerned
  - (B) Ignorant
  - (C) Pessimistic
  - (D) Doubtful
  - (E) Critical
  
14. Based on the passage, young people will understand their own mental health condition if ....
  - (A) high school programs prioritize social welfare
  - (B) workshops on mental health are effectively conducted
  - (C) their family and school consider mental disorder seriously
  - (D) more research on mental health reveals the roots
  - (E) mental health becomes a school subject
  
15. Which of the following is the best summary of the passage?
  - (A) A survey this year named mental health as the second top issue in Australia. The first top issue was alcohol and drugs, while the third one was equity and discrimination.
  - (B) Unlike what most people believe, mental health is a serious issue for Australians. The government has quickly reacted to a survey result and provided free counseling for everyone who needs professional help.
  - (C) Youth mental health workshops are held in 150 high schools. The workshops are facilitated by teenagers who have recovered from mental health problems so that participants with mental health issues can relate with them well
  - (D) Mental health has become a main issue for Australian teenagers according to a survey this year. This problem receives serious attention, and youth mental health programs are held in Australian high schools to support young people.

(E) While many people did not expect it, mental health apparently became a significant problem in Australia. In particular, many teenagers suffer from depression and obsessive compulsive disorder. Therefore, they need help from their family and school.

**English Exam Paper of SBMPTN in 2018**

Education includes both the teaching and learning of knowledge, proper conduct, and technical competency. It thus focuses on the cultivation of skills, trades or professions, as well as mental, moral, and aesthetic development. Formal education consists of systematic instruction, teaching, and training by professional teachers. This consists of the application of pedagogy and the development of curricula.

Educational systems are established to provide education and training, often for children and the young. A curriculum defines what students should know, understand, and be able to do as the result of education. A teaching profession delivers teaching which enables learning, and a system of policies, regulations, examinations, structures, and funding enables teachers to teach to the best of their abilities. Sometimes educational systems can be used to promote doctrines or ideals as well as knowledge, which is known as social engineering. This can lead to political abuse of the system, particularly in totalitarian states and governments.

Primary (or elementary) education consists of the first years of formal, structured education. In general, primary education consists of six or seven years of schooling starting at the age of 5 or 6, although this varies between, and sometimes within, countries. Globally, around 70% of primary-age children are enrolled in primary education and this proportion is rising.

In most contemporary educational systems of the world, secondary education consists of the second years of formal education that occur during adolescence. It is characterized by transition from the typically compulsory, comprehensive primary education for minors, to the optional, selective tertiary, or "higher" education (e.g., university, vocational school) for adults.

01. What does the passage mainly deal with?
  - (A) formal education
  - (B) varieties of education
  - (C) curriculum development
  - (D) modern education system
  - (E) pedagogy transformation
  
02. Based on the passage, the word "conduct" in line 1 means ....
  - (A) manner
  - (B) model
  - (C) control
  - (D) principle
  - (E) management
  
03. One function of education which can be wrongly practiced is referred to as ...
  - (A) social engineering
  - (B) higher education
  - (C) political abuse
  - (D) policy making
  - (E) primary education

The integration of technology and media can enhance early childhood practice. Successful integration of technology and media into early childhood programs involves the use of resources such as computers and the internet in daily classroom practices. True integration occurs when the use of technology and media becomes routine and transparent — when the focus of a child or educator is on the activity or exploration itself and not on the technology or media being used. Technology integration has been successful when the use of technology and media supports the goals of educators and programs for children provides children with digital tools for learning and communicating and helps improve child outcomes.

As the lives of children, parents, families, and educators are infused with technology and media, early childhood classrooms can benefit from the possibilities of extending children's learning through judicious use of these tools. As part of the overall classroom plan, technology and interactive media should be used in ways that support existing classroom developmental and educational goals rather than in ways that distort or replace them. For example, drawing on a touch screen can add to children's graphic representational experiences; manipulating colorful acetate shapes on a light table allows children to explore color and shape.

By focusing on technology and interactive media as tools—not as ends in and of themselves—teachers can avoid the passive and potentially harmful use of non-interactive, linear screen media that is inappropriate in early childhood settings. Intentionality is a key to developmentally appropriate use.

Exciting new resources in today's technology-rich world represent the next frontier in digital learning for our youngest citizens, leaving it to talented educators and caring adults to determine how best to leverage each new technology as an opportunity for children's learning in ways that are developmentally appropriate.

04. How does the first sentence relate to the other sentences in paragraph 1?
- (A) the other sentences in paragraph 1 explain further the kinds of integration of technology and media that can be of benefits to young learners
  - (B) the other sentences in paragraph 1 explain the impact of the integration of technology and media in early education explained in the first sentence
  - (C) the other sentences in paragraph 1 are examples of the use of technology in education
  - (D) the first sentence contains information that is contrary to the information in the other sentences
  - (E) the other sentences vaguely support part of the statement in the first sentence
05. The author would apparently agree that ....
- (A) successful integration of technology and media is determined by the quality of the computers and the connection of the internet
  - (B) the integration of technology and media occurs when the teacher focuses only on the technology itself
  - (C) the successful integration of technology and media in early childhood education really depends on good educators.
  - (D) educators should be selective in choosing educational goals to be integrated with the use of technology and media.
  - (E) both passive and interactive uses of technology and media are needed as a key to successful learning in early childhood settings.
06. The author holds an assumption that ....
- (A) the interactive media as a learning tool should be used to replace the existing classroom practice
  - (B) the successful integration of new technology in education requires helpful and good teachers
  - (C) the benefits of technology and media childhood classrooms can be achieved by decreasing the use of those tools in teaching and learning
  - (D) manipulating the colorful shapes to explore color and shapes using technology is the best way to develop interactive learning
  - (E) the use of paints, markers, crayons, and other graphic art materials should be replaced by the integration of technology and media
07. Which paragraph(s) explain(s) the importance of using technology and media wisely so that it can support existing class-room practice?
- (A) 1
  - (B) 2 and 3
  - (C) 2 and 4

- (D) 3 and 4
- (E) 4

The green movement is catching on in many pockets of the world. This is especially true in the construction industry. Today's buzz Words, which include global warming and zero emission, are causing everyday people to look for ways to reduce their carbon footprint. Purchasing environmentally-friendly property is a good investment for those who are concerned about their own health and the well-being of the earth. Based on this trend, entire districts, known as eco-communities, are being designed with green initiatives in mind. Dockside Green in Victoria, British Columbia, Canada is one of these communities. Its goal is to become the world's first zero-emissions neighborhood.

Builders of Dockside Green have the environment in mind with every choice they make. They ensure proper ventilation, and guarantee residents 100% fresh indoor air. Interior and exterior building materials, such as paints and wood, are natural and non-toxic. Eco-conscious builders use bamboo wherever possible because it is durable and does not require pesticides to grow.

Energy efficiency is one of the top priorities in eco-communities, such as Dockside Green. Not only do energy-efficient appliances and light fixtures reduce the environmental impact of heating and hot water, they also save residents and business owners money. Dockside Green claims that home owners will use 55% less energy than average residents in Canada. Though they are sharing space by investing in condo-style living, residents will have individual utility metres. Studies show that people use approximately 20% less energy when they are billed for exactly what they use. In addition, water is treated at Dockside Green and reused on site for flushing toilets.

Planners of eco-communities such as Dockside Green must take the future into account. Dockside Green will reuse 90% of its construction waste. They also plan to continue using local suppliers for all of their transport and maintenance needs. This is a great way to reduce emissions. Dockside residents will be encouraged to make use of a mini transit system and buy into the community's car share program. Finally, plans are in the works for a high-tech heating system that will use renewable biomass instead of fossil fuels.

08. By saying "Today's buzz words, which include global warming and zero emissions, are causing everyday people to look for ways to reduce their carbon footprint," in lines 1-3 the author implies that?

- (A) environmental issues have made people more cautious of their actions
- (B) global warming and zero emissions become everyone 's concern
- (C) people have to take care of their green-houses carefully
- (D) eco-friendly environmental programs should be strongly enforced
- (E) all people around the world are aware of global warming

09. Which of the following best restates the sentence "The green movement is catching on in many pockets of the world." in line 1?

- (A) many people consider it crucial to have eco-friendly environments
- (B) people who are aware of environmental issues love safe and healthy surroundings
- (C) house designers should consider the importance of green materials
- (D) everyone should understand the effect of global warming and zero emissions well
- (E) environmentalists are concerned with the green environment

10. The false idea that the author may hold about Dockside Green is that ....

- (A) it provides all eco-friendly properties
- (B) it is a good asset to buy a property in it
- (C) it encourages all houses to utilize efficient energy
- (D) it reduces global warming and emissions
- (E) it is where more natural livings can exist

11. The author organizes the ideas in the passage by ....

- (A) describing a new housing trend and providing a detailed example



- (B) discussing an environmental issue and providing ways to solve the issue
- (C) identifying a community problem and discussing possible solutions to the problem
- (D) explaining an environmentally friendly initiative and discussing the impacts of the initiative
- (E) establishing a new community initiative that is eco-friendly and explaining the ideas behind the initiative

The explanation shows that life condition is becoming more and more uncondusive for good -quality life. Therefore, today more people than ever are looking for ways to improve their health, increase energy, reduce stress, restore or enhance functionality, relieve aches and pains, balance emotions, and sharpen mental focus. Because of the demands of modern life, most people want those ways to be relatively simple and not time consuming. If you still have not found some-thing to fit your needs, you may want to consider Chinese healing exercises.

Chinese healing exercises make up a branch of Chinese medicine. It is almost never taught as a separate system of healing. Rather, it is used in many practices you probably recognize. Some are part of the oldest of Chinese medical practices, including acupressure and tuina, a type of Chinese massage therapy. Others have their origins in ancient self-healing or spiritual practices, such as Chinese forms of yoga and meditation. They are routinely taught together with more detailed and complex practices, such as taiji (t'ai chi) qigong (chi gung), and other advanced medical, spiritual, or martial practices. They are intended to prepare a student for those more demanding disciplines. They are also conducted as adjunctive exercises that can make some aspects of the main practices easier to perform. Some sources are less well known in the west, like medical qigong and paidagong. They are tapping and patting techniques used to break up qi blockages.

Qi is life force. and is responsible for all healthy functionality, animation, vitality, emotional balance, and mental clarity. Chinese exercises have a unique positive impact on all those qualities. Chinese healing exercises can amplify the benefits from taiji or qigong if you already have such a practice. In that context, they will open targeted areas of physical or energetic restriction, deepen your sensitivity to qi sensations, and increase qi flow. They root you more securely, thereby improving your overall performance.

12. The author's attitude towards the topic in the passage is ....
- (A) critical
  - (B) positive
  - (C) skeptical
  - (D) doubtful
  - (E) realistic
13. What topic does the paragraph preceding the passage most likely discuss?
- (A) good-quality life
  - (B) health improvements
  - (C) sharpening mental condition
  - (D) ways to increase body energy
  - (E) adverse life condition
14. What is the best summary of the passage?
- (A) people are encouraged to do Chinese healing exercises because they provide many benefits for people's life and cost very low. Moreover, these exercises do not require special equipments, sports gear, and apparel
  - (B) while some types of Chinese healing exercises have been considered useful, some others still need further research-based justification. These exercises tend to be more detailed and complex, thus they demand much higher skills from people who want to practice them
  - (C) despite many benefits provided by Chinese healing exercises, they are not so popular among people seeking for alter-native medical treatments. This is be-cause they are not aware of the advantages those exercises have

- (D) Chinese healing exercises can be a good option for those who want to improve their quality of life. These exercises include acupressure, tuina, taiji, qigong, and other medical, spiritual, and self-defense practices, which may promote overall functionality of person's well-being
- (E) Chinese healing exercises are becoming more and more popular as many benefits are associated with them. Furthermore, the variations in the alternative treatment are quite interesting and complex
15. It can be predicted from the passage that ....
- (A) the more people do Chinese healing exercises, the longer the time they need to master other advanced medical, spiritual, or martial practices
  - (B) the more people do Chinese advanced medical, spiritual, or martial practices; the less they need to do Chinese healing exercise
  - (C) the more do Chinese healing exercises, the worse they will be in other advanced medical, spiritual, or martial practices
  - (D) the more people do Chinese healing exercises, their overall health will be
  - (E) the more people do Chinese healing exercises, the simpler their life will be