

แบบทดสอบโคลซ ดัชนีวัดความยากง่ายของแบบทดสอบ และการพัฒนาแบบทดสอบโคลซ
สำหรับนักเรียนชั้นมัธยมศึกษาปีที่ 6

**A Cloze Test, Readability Indexes, and Developing a Cloze Test
for Matthayomsuksa 6 Students**

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บทคัดย่อ

การวิจัยครั้งนี้มีจุดมุ่งหมายเพื่อวิเคราะห์แบบทดสอบโคลซที่เลือกกล่คำที่ต้องการ 4 แบบทดสอบ ที่นักเรียนชั้นมัธยมศึกษาปีที่ 6 จำนวน 201 คน ได้คะแนนน้อยกว่า 30% และไม่ผ่านข้อสอบกลางภาคในรายวิชา ภาษาอังกฤษอ่านเขียน 5) ซึ่งวิเคราะห์โดยใช้ดัชนีวัดความยากง่ายของแบบทดสอบ กลุ่มตัวอย่างมีจำนวน 228 คน แบ่งเป็นนักเรียนจำนวน 27 คน ซึ่งมีคะแนนแบบทดสอบโคลซมากกว่า 30% และนักเรียนจำนวน 201 คน ซึ่งมีคะแนนแบบทดสอบโคลซน้อยกว่า 30% โดยยึดคะแนนแบบทดสอบโคลซใน 4 ส่วนเป็นหลัก ของข้อสอบกลางภาคในรายวิชานี้ กลุ่มตัวอย่างนี้ได้รับการทดสอบ และคะแนนแบบทดสอบโคลซใน 4 ส่วนของนักเรียนจำนวน 27 คน, จำนวน 201 คน และรวมทั้งหมดจำนวน 228 คน ได้นำมาวิเคราะห์ข้อมูลโดยใช้ ความถี่ ร้อยละ ค่าเฉลี่ย คะแนนความยากง่ายของการอ่านแบบกันนึ่งหมอก และคะแนนความยากง่ายของแบบต่างๆ ผลการวิจัย พบว่า เพื่อที่จะยอมรับสมมติฐาน เหตุผลหนึ่งของระดับความยากง่ายของแบบทดสอบ ที่ทำให้นักเรียนจำนวน 201 คน ไม่ผ่านการสอบกลางภาคของรายวิชานี้ คือ เมื่อร้อยละของคะแนนที่แตกต่างกันมากของแบบทดสอบโคลซที่เลือกกล่คำที่ต้องการของนักเรียน นำมาคำนวณโดยใช้ดัชนีวัดความยากง่ายของบทอ่านดัชนีเดียว หรือดัชนีวัดความยากง่ายของบทอ่านหลายดัชนีรวมเข้าด้วยกัน เมื่อวัดแล้ว สมมติฐานไม่ได้รับการยืนยัน เมื่อร้อยละของคะแนนแบบทดสอบโคลซของนักเรียนไม่แตกต่างกันมาก ไม่ว่าคะแนนของดัชนีวัดความยากง่ายของบทอ่านดัชนีเดียว หรือคะแนนดัชนีวัดความยากง่ายของบทอ่านหลายดัชนีรวมเข้าด้วยกันจะเป็นอย่างไรก็ตาม ทั้งนี้เนื่องจากการจัดอันดับบางส่วน ของคะแนนความยากง่ายของแบบทดสอบโคลซมีอันดับเหมือนกัน

คำสำคัญ: แบบทดสอบโคลซ ดัชนีวัดความยากง่าย รายวิชาภาษาอังกฤษอ่านเขียน นักเรียนชั้นมัธยมศึกษา

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Abstract

The purpose of the study was to analyze the 4 rational cloze tests which the 201 high-school Matthayomsuksa VI students had below 30% and failed the midterm exam of E33201 (Reading and Writing English 5) through readability indexes. 228 subjects were divided into the 27 students who had test scores above 30% and the 201 students who had test scores below 30% based on cloze test scores on the 4 parts of the exam. These subjects were tested and their cloze test scores in 4 parts of the 27 students, the 201 students, and all 228 students were analyzed by means of frequency, percentage, mean, Gunning-Fog Score, and a variety of readability scores. Results indicated that to accept the hypothesis, one reason for the readability level could cause 201 students fail the exam when high different percentages of the students' test scores in rational cloze tests were calculated by one readability index alone or a variety of readability indexes together. The hypothesis was not confirmed when the percentages of the students' cloze test scores were not different much no matter how scores one readability index alone was or a variety of readability indexes together was because some rankings of the readability scores were the same.

Keyword: Cloze tests, Readability indexes, Reading and writing English course, High-school students

Introduction

English is an international language which is a medium for approaching new sciences and technology around us. We can know the world movement of everything with them and English is also a cultural medium for us to understand people worldwide.

Currently, reading English is vitally important and plays a significant role in Thai societies. Martiarini (2017) mentioned that reading can be special interest and attention for the students to read materials not only inside the classroom but also in outside and wider space so that the students will acquire more words to develop their skills in language competence.

To measure their competence, test is an essential part in learning. The cloze procedure, as a readability technique, can be designed as a test to evaluate the student's achievement in language. According to Ulusoy (2008) the cloze test is based on the Gestalt concept of closure which was first developed by Wilson Taylor in the early 1950's to assess the readability of texts and subsequently assess the reading comprehension in both first and second languages.

From testing the 228 Matthayomsuksa VI students with the midterm exam of E33201 (Reading and Writing English 5) which were 4 word lists cloze tests in the first semester of the academic year 2022 at Panyaworakun School, it was found that the 201 Matthayomsuksa VI students of the 228 students (88.16%) had the cloze test scores below 30% in 4 parts and failed the exam. As a consequence, the 4 rational cloze

tests which the 201 students had below 30% and failed the exam were analyzed through readability indexes.

One important problem for English teachers is selecting the texts which are suitable for the students' reading level. Chattiwat (2000) pointed out that in teaching reading in America where teaching English is as the first language, texts are selected to be suitable for the students' reading level through readability formula which measures from complex words containing three or more syllables and complex sentence structures. One method to inform readability is employing a cloze technique which is popular to test. In this present study, the 4 rational cloze tests which were the 4 word lists cloze tests of the midterm exam of E33201 (Reading and Writing English 5) are tested by a variety of readability indexes especially the Gunning Fog Index to find out why the 201 Matthayomsuksa VI students of the 228 students (88.16%) had the cloze test scores below 30% in 4 parts and failed this midterm exam of E33201 (Reading and Writing English 5).

With reference to Srisunakruea and Chumworatayee (2019) the research study was readability of reading passages in English textbooks and the Thai National Education English Test: a comparative study. In this study, to compare the readability levels of reading passages in English textbooks (CPET) and the Thai National Education English Test (CONET), three types of readability formulas were employed: Flesch Reading Ease, Flesch-Kincaid Grade Level, and Coh-Metrix L2 Readability were used and eight linguistic characteristics consisting of narrativity, syntactic simplicity, word concreteness, referential cohesion, deep cohesion, verb cohesion, connectivity, and temporality, were analyzed. In terms of all three readability formulas employed in this study, the results revealed that the readability level of the reading passages in CPET was easier for the readers than the reading passages in CONET. In this field of language testing, Srisunakruea and Chumworatayee (2019) studied a comparison of the readability levels of teaching and testing materials. In this case, the readability indexes; therefore, were used for this comparison of the average readability levels of passages from CPET and CONET. However, the present study uses a variety of readability indexes for analyzing the 4 rational cloze tests which all 228 students (100%) had, which the 27 students (11.84%) had above 30%, and which the 201 students (88.16%) had below 30%.

Gopal, Maniam, Madzlan, Shukor, and Neelamegam (2021) studied readability formulas: an analysis into reading index of prose forms. The results showed that there was no match between the reading index calculated and students' reading age on one prose form, a full text on chapter three (pp. 51-52) from 'Fairs Fair' by Narinder Dhami and the other prose form, two pages (pp. 102-103) from 'Cheat' by Alan Baillie. The average readability index calculated for one is 3.01 falling at grade three, while the average readability index for the other is 5.70 falling at grade five. In the American grade level, the target age group for one and the other is for primary students. Unlike the American grade level, the two prose forms are for lower secondary students, ages 13 and 14 in the Malaysian context after these American grades were converted. The reading index is measured by using four readability formulas which are Dale-Chall, Fog, SMOG, and

Flesh-Kincaid concentrating on the words, sentences, syllables, and polysyllable words through one go using a computer program by Alain Trottier called Words to count of <https://www.wordscount.info/>. The research determined whether the readability indexes were compatible with the age of the students who would read and understand the two prose forms or not. The readability indexes in this study were employed for finding out the readability level of the two prose forms. For the present study, the readability indexes are utilized for analyzing the 4 rational cloze tests which the 201 students had below 30% and failed the exam.

In all, Gopal, Maniam, Madzlan, Shukor, and Neelamegam (2021) indicated that readability measurement aims to ensure what grade level is necessary for a reader to read and comprehend a text. As a result, readability is an evaluation of the ease or difficulty of reading materials. Readability indexes are designed to predict text difficulty so that suitable texts will be selected for students.

Objective

To analyze the 4 rational cloze tests which the 201 students had below 30% and failed the exam by ways of readability indexes.

Research questions

To achieve the research purpose, five questions were posed for measuring the accordance between the students who took the 4 parts of the midterm exam and the readability index. The questions were:

1. Whether the cloze test scores above 30% in 4 parts of the 27 students of the 288 students (11.84%) are in accordance with the average means of Fog's readability indexes or not.
2. Whether the cloze test scores below 30% in 4 parts of the 201 students of the 228 students (88.16%) who failed the exam are in accordance with the average means of Fog's readability indexes or not.
3. Whether the scores of the 4 rational cloze tests of all 228 students (100%) are in accordance with the average means of Fog's readability indexes or not.
4. Whether the scores of the 4 rational cloze tests of all 228 students (100%) are in accordance with other readability indexes or not.
5. To which group between the cloze test scores in 4 parts of the 27 students of the 228 students (11.84%) and the cloze test scores in 4 parts of the 201 students of the 228 students (88.16%) is in accordance with the readability indexes.

Hypothesis

One reason for the readability level can cause the 201 students of the 228 students (88.16%) fail the midterm exam of E33201 (Reading and Writing English 5) which was the 4 rational cloze tests.

Methodology

1. Subjects

The subjects in this study were 228 high-school students of Matthayomsuksa 6/1, 6/3, 6/6, 6/7, 6/8, and 6/9 who studied E33201 (Reading and Writing English 5) and took the midterm exam of E33201 (Reading and Writing English 5) in the first semester of the academic year 2022 at Panyaworakun School. The sample size was from the sample size table of Kanjanawasee, Pitayanon, and Srisukho (2012). Determined by the size of the population in the table, a sample size of 228 constructed a 99% confidence interval with a Margin of Error of $\pm 5\%$. The subjects were selected by purposive sampling technique because the teacher-researcher was assigned to teach them in these 6 classes and they were in the teacher-researcher's responsibility. Besides, the subjects were from a large variety of programs for a wide spread of the whole population. They were from the 6 classes consisting of Matthayomsuksa VI students from the Thai-Social-Home Economics Program, the Thai-Social-English Program, the English-Math Program, the Science-Math Program, and the Gifted Program. Taking the midterm exam of E33201 (Reading and Writing English 5), the 228 students were divided into two groups for this study. One was the 27 students of the 228 students (11.84%) who had test scores above 30%. The other was the 201 students of the 228 students (88.16%) who had test scores below 30% and failed their midterm exam of E33201 (Reading and Writing English 5).

2. Research Instruments

2.1 The Average of Fog's Readability Indexes

The Fog's readability indexes calculated by the 3 resources of <https://charactercalculator.com/gunning-fog-index/>, <https://www.textcompare.org/readability/gunning-fog-score/>, and <https://gunning-fog-index.com> and the Fog's readability indexes were analyzed by using mean. Regarding Bik (2005), the Fog's readability index is concerned simply with the length of sentences and the number of syllables so that the problem of matching between the reader and the text is found. With reference to the table of Gunning-Fog Score, the more the Fog scores are, the more difficult the texts are to read.

2.2 Readability

As well as the Fog's readability indexes, there are a lot of readability indexes to test whether the texts are simple or difficult, such as Flesch Kincaid Grade Level (FKGL), Flesch Kincaid Reading Ease (FKRE), New Dale-Chall Score (NDCS), SMOG Index (SMOGI), Coleman-Liau Index (CLI), and Automated

Readability Index (ARI). These tests to find the readability index were calculated by <https://www.textcompare.org/readability/> for matching between the reader and the text. Like Gunning-Fog Score, the more the FKGL scores, the NDCS scores, the SMOGI scores, the CLI scores, and the ARI scores are, the more difficult the texts are to read except the FKRE scores. The more the FKRE scores are, the simpler the texts are to read.

2.3 The Midterm Exam of E33201 (Reading and Writing English 5) (See Appendix.)

The midterm exam of E33201 (Reading and Writing English 5) consisted of the 4 rational cloze tests used to assess the vocabulary knowledge of the students. The 4 rational cloze tests were designed from a conversation in *MegaGoal Workbook 5* (Santos & O' Sullivan, 2011) a conversation in *New World Student Book 6* (Santos, 2015) a reading in *MegaGoal Student Book 5* (Santos & O' Sullivan, 2014) and an audioscript in *New World Teacher's Guide 6* (Santos, 2014). The 4 rational cloze tests were 4 word lists cloze tests composed of 8, 7, 8, and 7 items respectively. From the list of words given, the students had to choose the one which is most suitable for each blank and write only the letter of the correct word after each number on their answer sheet. They had to use each word once only. (Heaton, 1995, pp. 58-59) There are 4 parts, 30 items and 4 pages in this exam.

3. Procedures

3.1 The teacher-researcher randomly chose the words from *New World Teacher's Guide 6* and Word Building in *MegaGoal Student Book 5*

3.2 The teacher-researcher taught the students the selected words retrieved from *New World Teacher's Guide 6* and Word Building in *MegaGoal Student Book 5* in terms of pronunciation, spellings, parts of speech, word meanings, word translation, filling in each blank with the correct word, and making sentences from the selected words. The selected words the students learned would be tested in the midterm exam of E33201 (Reading and Writing English 5).

3.3 The teacher-researcher designed the midterm exam of E33201 (Reading and Writing English 5) according to Heaton (Heaton, 1995, pp. 58-59).

3.4 The students took the midterm exam of E33201 (Reading and Writing English 5) on the 19th of July, 2022 from 8.20 a.m. to 9.20 a.m. The students took 60 minutes to do the exam. In this exam, there are 4 parts, 30 items and 4 pages.

3.5 The teacher-researcher marked all 228 students' papers and found that the 201 students failed the exam, while the 27 students passed the exam. For this reason, not many students passed the exam.

3.6 To analyze why the 201 students had test scores below 30% on 4 rational cloze tests and failed the exam, the 5 research questions were conducted.

3.7 All the scores of the 228 students consisting of the 27 students who had test scores above 30% and the 201 students who had test scores below 30% in the 4 rational cloze tests were analyzed

through the average means of Fog's readability indexes, Flesch Kincaid Grade Level (FKGL), Flesch Kincaid Reading Ease (FKRE), New Dale-Chall Score (NDCS), SMOG Index (SMOGI), Coleman-Liau Index (CLI), Gunning-Fog Score (GFS), and Automated Readability Index (ARI) to find out the 5 research questions.

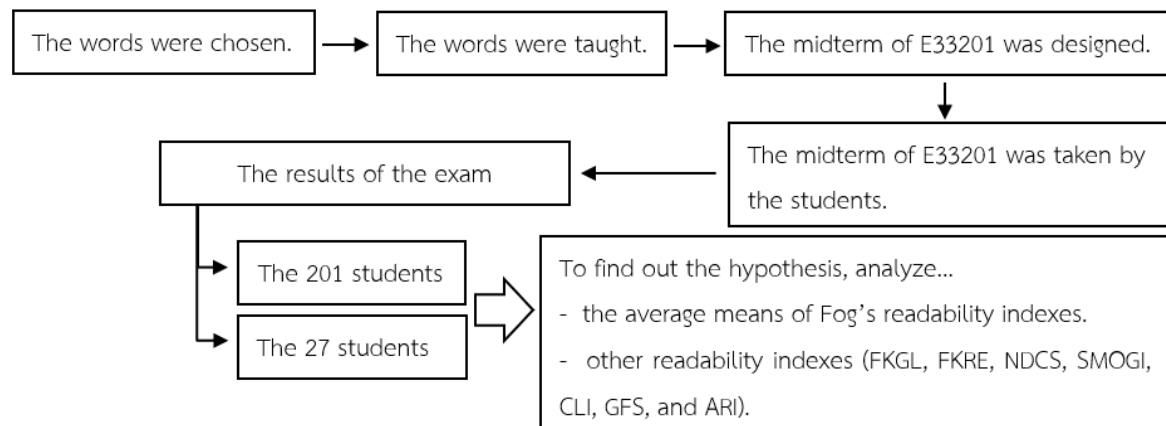


Figure 1 Conceptual framework of this study

4. Data Collection

The midterm exam of E33201 (Reading and Writing English 5) were administered to all 228 students on the first day of the midterm exam (the 19th of July, 2022) from 8.20 a.m. to 9.20 a.m. The students sat for the 4 parts of the rational cloze tests which were 4 word lists cloze tests for 60 minutes. After finished, the midterm exam papers of E33201 (Reading and Writing English 5) were collected.

5. Data Analysis

5.1 All the items of the 4 word lists cloze tests of the midterm exam papers were marked for all 228 students who were divided afterwards into the 27 students who had test scores above 30% and passed the exam, and the 201 students who had test scores below 30% and failed the exam.

5.2 All the scores of the 27 students who had test scores above 30% in 4 parts were counted and turned into the percentage for comparing with the average mean of 3 Fog scores and the score rankings.

5.3 All the scores of the 201 students who had test scores below 30% in 4 parts were counted and turned into the percentage for comparing with the average mean of 3 Fog scores and the score rankings.

5.4 All the scores of the 228 students who took the 4 rational cloze tests of the exam were counted and turned into the percentage for comparing with the average mean of 3 Fog scores and the score rankings.

5.5 All the scores of the 228 students who took the 4 rational cloze tests of the exam were counted and turned into the percentage for comparing with the 7 readability scores and the average mean of the 4 rankings of the 7 readability scores. These 7 readability scores were Flesch Kincaid Grade Level (FKGL), Flesch Kincaid Reading Ease (FKRE), New Dale-Chall Score (NDCS), SMOG Index (SMOGI), Coleman-Liau Index (CLI), Gunning-Fog Score (GFS), and Automated Readability Index (ARI).

Findings

Table 1: The average of Fog's readability indexes in 4 parts of the midterm exam of E33201 (Reading and Writing English 5)

4 Parts	Fog Scores Resource 1	Fog Scores Resource 2	Fog Scores Resource 3	The Average of the Fog Scores
Part 1: A conversation in <i>MegaGoal Workbook 5</i>	7.35	7.11	5.41	6.62
Part 2: A conversation in <i>New World Student Book 6</i>	6.98	6.84	5.47	6.43
Part 3: A reading in <i>MegaGoal Student Book 5</i>	12.28	12.22	10.55	11.68
Part 4: An audioscript in <i>New World Teacher's Guide 6</i>	7.52	6.91	5.41	6.61

From table 1, the average means of Fog's readability indexes from the easiest part to the most difficult part were Part 2: A conversation in *New World Student Book 6* (6.43), Part 4: An audioscript in *New World Teacher's Guide 6* (6.61), Part 1: A conversation in *MegaGoal Workbook 5* (6.62), and Part 3: A reading in *MegaGoal Student Book 5* (11.68).

Table 2: Percentage rankings of the cloze test scores in 4 parts of the 27 students who passed the exam comparing with the Fog score rankings

Parts	Test Scores	N	%	Rank (%)	\bar{x}	Max.	Min.	Fog Readability Index	
								Fog Score	Fog Rank
Part 1	81/216	27	37.50%	3	3	8	0	6.62	3
Part 2	133/189	27	70.37%	1	4.93	7	1	6.43	1
Part 3	70/216	27	32.41%	4	2.59	8	0	11.68	4
Part 4	121/189	27	64.02%	2	4.48	7	1	6.61	2

Table 2 reported that the percentage rankings of the 27 students' cloze test scores in Part 2: A conversation in *New World Student Book 6* (70.37%), Part 4: An audioscript in *New World Teacher's Guide 6* (64.02%), Part 1: A conversation in *MegaGoal Workbook 5* (37.50%), and Part 3: A reading in *MegaGoal Student Book 5* (32.41%) were in accordance with the average means of Fog's readability indexes of 6.43, 6.61, 6.62 and 11.68 respectively.

Table 3: Percentage rankings of the cloze test scores in 4 parts of the 201 students who failed the exam comparing with the Fog score rankings

Parts	Test Scores	N	%	Rank (%)	\bar{x}	Max.	Min.	Fog Readability Index	
								Fog Score	Fog Rank
Part 1	215/1,608	201	13.37%	3	1.07	4	0	6.62	3
Part 2	219/1,407	201	15.57%	2	1.09	5	0	6.43	1
Part 3	178/1,608	201	11.07%	4	0.89	4	0	11.68	4
Part 4	221/1,407	201	15.71%	1	1.10	5	0	6.61	2

Table 3 demonstrated that the percentage rankings of the 201 students' cloze test scores in Part 1: A conversation in *MegaGoal Workbook 5* (13.37%) at the third percentage ranking and Part 3: A reading in *MegaGoal Student Book 5* (11.07%) at the fourth percentage ranking were in accordance with the average means of Fog's readability indexes at 6.62 and 11.68 respectively. This meant that the more the Fog scores were, the lower the percentages of the cloze test scores which the 201 students could do in Part 1 and Part 3 were according to the table of Gunning-Fog Score. On the other way round, the percentage rankings of the 201 students' cloze test scores in Part 2: A conversation in *New World Student Book 6* (15.57%) at the second percentage ranking and Part 4: An audioscript in *New World Teacher's Guide 6* (15.71%) at the first percentage ranking were not in accordance with the average means of Fog's readability indexes at 6.43 and 6.61 respectively. This meant that the more the Fog scores were, the higher the percentages of the cloze test scores which the 201 students could do in Part 2 and Part 4 were. Unlike Part 1 and Part 3, Part 2 and Part 4 were not according to the table of Gunning-Fog Score.

Table 4: Percentage rankings of the cloze test scores in 4 parts of all 228 students comparing with the Fog score rankings

Parts	Test Scores	N	%	Rank (%)	\bar{x}	Max.	Min.	Fog Readability Index	
								Fog Score	Fog Rank

Part 1	296/1,824	228	16.23%	3	1.30	4	0	6.62	3
Part 2	352/1,596	228	22.06%	1	1.54	5	0	6.43	1
Part 3	248/1,824	228	13.60%	4	1.09	4	0	11.68	4
Part 4	342/1,596	228	21.43%	2	1.50	5	0	6.61	2

It was illustrated in Table 4 that the percentage rankings of the 228 students' cloze test scores in Part 2: A conversation in *New World Student Book 6* (22.06%), Part 4: An audioscript in *New World Teacher's Guide 6* (21.43%), Part 1: A conversation in *MegaGoal Workbook 5* (16.23%), and Part 3: A reading in *MegaGoal Student Book 5* (13.60%) were in accordance with the average means of Fog's readability indexes at 6.43, 6.61, 6.62 and 11.68 respectively.

Table 5: Percentage rankings of the cloze test scores in 4 parts of the 27 students, the 201 students, and all 228 students comparing with the 7 readability scores

Parts	27 Rk (%)	201 Rk (%)	228 Rk (%)	FKGL	Rk	FKRE	Rk	NDCS	Rk	SMOGI	Rk	CLI	Rk	GFS	Rk	ARI	Rk
Part 1	3	3	3	3.91	3	83.71	3	8	2	8.2	3	4.54	2	7.11	3	2.08	1
Part 2	1	2	1	3.57	1	84.88	2	10	3	8.01	2	5.32	3	6.84	1	2.55	2
Part 3	4	4	4	7.85	4	61.75	4	10	3	11.75	4	10.11	4	12.22	4	7.61	4
Part 4	2	1	2	3.75	2	93.64	1	6	1	6.87	1	4.08	1	6.91	2	3.3	3

Concerning Table 5, the FKGL score rankings and the Fog score rankings were in accordance with the percentage rankings of the 27 students' cloze test scores which were above 30% and the percentage rankings of all 228 students' cloze test score. However, the FKRE score rankings and the SMOGI score rankings were in accordance with the percentage rankings of the 201 students' cloze test scores which were below 30%. Besides, the NDCS score rankings were almost the same as the CLI Score rankings, while the ARI score rankings were different from the others and could not be grouped or paired with the others.

Table 6: Percentage rankings of the cloze test scores in 4 parts of the 27 students, the 201 students, and all 228 students comparing with the 4 rankings of the average means of the 7 readability scores

Parts	27 Rk (%)	201 Rk (%)	228 Rk (%)	4 Rankings of the Average Means of the 7 Readability Scores							\bar{x}	Rk
				FKGL	FKRE	NDCS	SMOGI	CLI	GFS	ARI		
Part 1	3	3	3	3	3	2	3	2	3	1	2.43	3
Part 2	1	2	1	1	2	3	2	3	1	2	2.00	2

Part 3	4	4	4	4	4	3	4	4	4	4	3.86	4
Part 4	2	1	2	2	1	1	1	1	2	3	1.57	1

Pertaining to Table 6, the 4 rankings of the average means of the 7 readability scores were in accordance with the percentage rankings of the 201 students' cloze test scores which were below 30%.

Discussions

1. This study is the way how to develop a cloze passage for a specific group of students. Farhady (1996) stated that "First, three to five passages are selected from the students' textbook. Second, the average readability for these passages would serve as a criterion for the selection of a new passage for the cloze procedure for the particular group of students." However, Bik (2005) pointed out that "The formulae give a numerical value which is the American grade level." Therefore, Part 2: A conversation in *New World Student Book 6* should be selected the most. The material selected should not be American grade level because the students in this study are non-native speakers. The highest percentage or 22.06% of the 228 students' cloze test scores in Part 2: A conversation in *New World Student Book 6* with the average means of Fog's readability indexes at 6.43 is the most the students can do.

2. Farhady (1996) indicated on a clear definition of cloze that "cloze is a passage of around 240 words with every 7th word deleted providing that the first and the last sentences are left intact." As a result, the number of deletions, the distance among deletions, and the length of the passage should be considered. In terms of the parts of speech of words for filling in the cloze test, eliminating verbs is the easiest and eliminating nouns, verbs, and adjectives or the three parts of speech together are easier than eliminating nouns alone or adjectives alone as well as eliminating content words which are nouns, verbs, adjectives, and adverbs has a better result than eliminating several kinds of words systematically (Sukamolson, 2015 as cited in Portten, 1968, 26). Furthermore, Tiara (2019) explained that level of deletion influences the validity of a cloze test, while other factors are also involved. This explanation results in weaknesses in the reliability of the cloze test. Sukamolson (2015) suggested that the test takers read a completed text before taking the cloze test or they read a completed text and taking the cloze test from a summary text. By this way, level of familiarity will increase and the cloze test will not be too difficult for the students.

3. In addition to cloze tests for English subjects, cloze tests can also be used for Thai subjects. Regarding Farhady (1996), "Educators can utilize varieties of cloze in the learners' mother tongue. Research has shown that cloze is a useful technique in improving students' command in their mother tongue as well." With reference to Saepu (2004), due to Thai language constructing a cloze test for developing Thai reading comprehension of Prathomsuksa II students. (Preparatory level) could use six options and two

distractors in the test. For this reason, Thai cloze tests cannot be used for general non-native Thai speakers. Conversely, English cloze tests cannot be used for general non-native English speakers as well. This present study showed that the 228 Matthayomsuksa VI (Grade 12) Thai students had the highest percentage of the test scores in a word lists cloze test with the average means of Fog's readability indexes at 6.43 which is for the 6th grade of American students. However, besides English and Thai subjects, this study will be beneficial for development of exam in any other subjects.

4. Tiara (2019) defined a rational cloze test as "a word where certain types of words are removed according to linguistic principles, such as nouns, verbs, adjectives, etc." The midterm exam of E33201 (Reading and Writing English 5) was a type of rational cloze tests. Benjama & Palanukulwong (2015) regarded that the students needed to apply their grammar knowledge and reading competence in order to select the correct words for the rational cloze test. Besides vocabulary knowledge, other underlying skills were needed in doing the rational cloze test. Therefore, the midterm exam of E33201 (Reading and Writing English 5) was more than testing vocabulary. The words from a conversation in *MegaGoal Workbook 5*, a conversation in *New World Student Book 6*, a reading in *MegaGoal Student Book 5*, and an audioscript in *New World Teacher's Guide 6* should not take for the 4 rational cloze tests if the students do not have other skills. Benjama & Palanukulwong (2015) indicated on their study that "It implies that not only vocabulary knowledge, but that the rational cloze test could assess the reading comprehension and grammar ability of the students." As a result, cloze tests are much more difficult than multiple-choice tests. Bormuth's study demonstrated that if the test takers have 43% of cloze test scores, they will be equal to 75% of multiple-choice test scores and if the test takers have 50% of cloze test scores, they will be equal to 90% of multiple-choice test scores (Sukamolson, 2015 as cited in Bormuth, 1967, 291).

Conclusion

Overall, to analyze the 4 rational cloze tests which the 201 students had below 30% and failed the exam through readability indexes. The results of this study could be summarized that the FKRE score rankings, the SMOGI score rankings, and the 4 rankings of the average means of the 7 readability scores were in accordance with the percentage rankings of the 201 students' cloze test scores which were below 30%. The scores of Fog's readability index alone or the average means of Fog's readability indexes alone were not in accordance with the percentages of these students' cloze test scores which were not different much in Part 2: A conversation in *New World Student Book 6* and Part 4.: An audioscript in *New World Teacher's Guide 6*. These findings meant that one readability index should not be selected to use. For this reason, if the percentages of these students' cloze test scores are different much, the readability indexes can be differentiated. However, if these percentages are not different much, the readability indexes cannot distinguish no matter how scores one readability index alone was or a variety of readability indexes together was in this study. In terms of high different percentages of the students' test scores in rational cloze tests

on one hand, readability level could cause the students fail the 4 word lists cloze tests. On the other hand, the percentages of the students' cloze test scores which were not different much could not validate the effect of the readability indexes because some rankings of the readability scores were the same. To conclude, the former concurred with the hypothesis, whilst the latter could not confirm the hypothesis.

Recommendations

Based on the findings, conclusions and discussions of this study, how to improve the cloze tests for 201 Matthayomsuksa VI students who had the test scores below 30% and failed the test at Panyaworakun School is recommended as follows.

1. Instead of seven or eight options for the word lists cloze tests as the midterm exam of E33201 (Reading and Writing English 5), there should be only four options. This is because if the students have one incorrect option in cloze tests, the other incorrect option will occur. Overall, the more options there are in cloze tests, the more chances of incorrect options the students will get.

2. In place of a conversation, a reading or an audioscript with the seven or eight options for the word lists cloze tests, use four sentences with four options for choosing the correct word to complete each sentence. A conversation, a reading or an audioscript are too long to read in terms of the length of the texts.

3. In line with Bormuth (1967), the students will have vast higher test scores in comprehension multiple-choice tests than in cloze tests. For this reason, comprehension multiple-choice tests should be used rather than cloze tests.

4. For testing vocabulary which the students need only vocabulary knowledge, the vocabulary test seems more valid than any cloze tests as which the students need both grammar knowledge and reading comprehension combined together. Therefore, the vocabulary tests should be used in preference to the cloze tests.

I hope that this research will be interesting to assist English teachers to develop better instruction in the classrooms and to design language tests for their students.

Recommendations for Further Research

Based on the findings, conclusions and discussions of this study, the following recommendation is made for further research.

Another research study can be conducted together with the results of this study to improve the midterm exam papers of E33201 (Reading and Writing English 5) consisting of the 4 rational cloze tests which were 4 word lists cloze tests for testing and trying out the 228 subjects in this once more in the

second semester to find the effectiveness of a new midterm exam papers of E33201 (Reading and Writing English 5) designed again by the results of this study.

References

- Benjama, N., & Palanukulwong, T. (2015). Rational cloze test: A valid measure of vocabulary?. *International (Humanities, Social Science and arts)*, 8(4), 113-126.
- Bik, K. (2005). *An analysis of the English textbook, 'Different Student Book 2' by Jim Lawley and Rodrigo Fern and Carmona*. Unpublished Master's research paper, Thammasat University, Language Institute, Teaching English as a Foreign Language.
- Bormuth, J. R. (1967). Comparable cloze and multiple-choice comprehension test scores. *Journal of Reading*, 10, 291-299.
- Charactercalculator. (2022). *The Gunning fog index readability formula*. Retrieved August 13, 2022 from <http://charactercalculator.com/gunning-fog-index/>.
- Chattiwat, W. (2000). *Teaching English reading comprehension*. (2nd ed.). Bangkok: Faculty of Education, Silpakorn University. (In Thai)
- Farhady, H. (1996). Varieties of cloze procedure in EFL education. *Roshd Foreign Language Teaching Journal*, 12(44), 217-229.
- Gopal, R., Maniam, M., Madzlan, N. A., Shukor, S. S., & Neelamegam, K. (2021). Readability formulas: An analysis into reading index of prose forms. *Studies in English Language and Education*, 8(3), 972-985.
- GunningFogIndex. (2022). *The Gunning fog index readability formula*. Retrieved August 13, 2022, from <https://gunning-fog-index.com>.
- Heaton, J. B. (1995). *Writing English language tests* (6th impression). England: Longman.
- Kanjanawasee, S., Pitayanon, T., & Srisukho, D. (2012). *Selection of appropriate statistics for research*. (6th ed.). Bangkok: Chulalongkorn University. (In Thai)
- Martiarini, E. (2017). Contrasting multiple choice and cloze task on student's reading comprehension. *DEIKSIS*, 9(3), 292-299.
- Portten, T. C. (1968). *A taxonomy of cloze research, part I: Readability and reading comprehension*. Calif: SW Regional Laboratory for Educational Research.
- Saepu, S. (2004). *Constructing a cloze test for developing Thai reading comprehension of Prathomsuksa II students (Preparatory Level)*. Master project. M.Ed. (Educational Measurement). Bangkok: Graduate school, Srinakharinwirot University. (In Thai)
- Santos, M. D. (2014). *New world teacher's guide 6* (2nd ed.). New York: McGraw-Hill Education.
- Santos, M. D. (2015). *New world student book 6*. Bangkok: Thai Watana Panich.
- Santos, M. D., & O'Sullivan, J. K. (2011). *MegaGoal workbook 5*. Bangkok: Thai Watana Panich.
- Santos, M. D., & O'Sullivan, J. K. (2014). *MegaGoal student book 5* (4th ed.). Bangkok: Thai Watana Panich.

- Srisunakruea, T. & Chumworatayee, T. (2019). Readability of reading passages in English textbooks and the Thai national education English test: A comparative study. *Arab World English Journal*, 10(2), 257-269.
- Sukamolson, S. (2015). *Cloze tests and the applications of them*. Retrieved from https://portal.edu.Chula.ac.th/pub/jrm/index.php/jrm/article/download/308/pdf_254.
- Textcompare (2022a). *The Gunning fog index readability formula*. Retrieved August 13, 2022, from <https://www.textcompare.org/readability/gunning-fog-score/>.
- Textcompare (2022b). *The Readability formula*. Retrieved August 13, 2022, from <https://www.Textcompare.org/readability/>.
- Tiara, E. (2019). Effectiveness of test design between of cloze test and multiple choice test for reading comprehension. *ELLITE Journal of Education, Linguistics, Literature and Language Teaching*, 2(2), 53-68.
- Ulusoy, M. (2008). Evaluating sixth graders' reading levels with different cloze test formats. *Egitim Arastirmalari-Eurasian Journal of Educational Research*, 31, 115-133.