



An Analysis of the Difficulty of National Examination Test Items

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ABSTRACT

This study aimed to determine: (1) the items categorized into difficult in English National Examination 2016/2017 (2) learning objectives (indicators) that are categorized into difficult of English National Examination 2016/2017. The subjects of the research is the students of the third grade at State Senior High School 5 Pekanbaru. The samples were randomly selected of 43 students. The data obtained through analyzing the answers of English National Examination 2016/2017. The results showed that (1) the items, categorized into difficult are item 2, item 3, item 5, item 8, item 9, item 11, item 13, item 15, item 20, item 25, item 26, item 31, item 41, item 45, item 46, and item 49. The difficult of learning objective (learning-indicators) were indicator 1, indicator 2, indicator 3, indicator 4, indicator 5, indicator 7, indicator 9, indicator 10, indicator 11, indicator 13, and indicator 14.

Keywords: Item Analysis, Difficulty Level, National Examination

INTRODUCTION

The measurement of learning result is conducted by the government embodied in the form of National Examination (Regulation of the Minister of National Education of Indonesia Republic Number 04 of 2018). National Exam is used as a standardization on tool to test the feasibility of a student to be able to continue his/her education to the higher level. Furthermore, National Exam is one of government efforts to enhance the quality of education. The exam result is also used as a benchmark against other countries' education.

Various studies in Yusrizal (2016, p. 140) indicated that by National Exam, students are encouraged to learn better and teachers are encouraged to teach better.

In relation to the learning and teaching, evaluation activities are not just stop after the teacher evaluates learning outcomes that end with giving scores/assessments of student learning outcomes, but it also needed to know the quality of the learning process, (Fitrianawati, 2010, p. 282). According to Arifin (2011, p. 221), in processing the data of learning outcomes of the test, there are five steps must be

followed. (1) give a score, which is a score on the test results that can be achieved by students. To acquire a raw score, three types of tools are needed, namely answer keys, scoring keys, and conversion guidelines. (2) changing the raw score into a standard score according to the demeanor of a particular norm. (3) convert the standard score into a value, either in the form of letters or numbers. (4) analyzing the problem to determine the degree of validity and reliability of the problem, the level of difficulty index, and the distinguishing power.

In addition, Quaigrain, (2017, p. 3) stated that having administered and scored a test, a teacher needs to know how good the test items are and whether the test items were able to reflect the students' performance in the course in relation to the specific learning objectives taught over the period of time. The teacher needs to process or analyze which components of the material given are still weak both in the delivery of material by the teacher and mastery of the subject matter by students. Because, the functions of the result of the test are (1) to analyze which parts of the learning plan still need improvement to make the quality of the learning process better, (2) optimizing the learning process, Arifin (2011, pp. 286-287).

Furthermore, Aiken (1994, p. 63 in Kusaeri & Suprananto 2012, p. 163) stated that the purpose of analyzing the items is also to help improve the test through revision or removing ineffective items, as well as to find out diagnostic information for students whether they have / have not understood the material that has been taught. In addition, Thondike and Hagen (1997) states that an analysis of test items that students have answered by students has two goals: (1) The answers to the

questions are diagnostic information to examine the lessons of the class and the failure of learning failures and then to guide the way of learning better. (2) answers to separate questions and reviews of questions that are based on the answers are the initial steps for preparing a better test for the following year.

National Exam's questions have been standardized by the National Education Assessment Centre (Puspendik). The device has gone through trial process in all area, so it is believed to have met all the requirements as a good test. The parameters that must be met for standardized tests are the validity, reliability, level of difficulty, differentiating power and decoys' effectiveness.

Furthermore, it was hard to find the research about item analysis in National Exam, because theoretically national exam has been standardized. And generally item analysis has been used only to determine the quality of the test items, such as improving items which will be used again in later tests or it can also be used to eliminate misleading items in a test. It can be proven by some researches by Salwa (2012), Boopathiraj & Chellamani (2013), Kumari & Bhattacharya (2016), Rana (2014), Sih (2010), Quaigrain & Arhin (2017). Those all research were about item analysis in determining the quality of the test items, and no one of those research analyze items to find out the the lessons of the class and the learning failures of national examination items and then to guide the way of learning properly.

On the other hand, actually item analysis specifically the difficulty level analysis could be used as well in national exam to find out the diagnostic

information about the lessons that have been taught yet or not by the teacher, and the strengths and weaknesses of lessons, in order to guiding in better lessons for the next exam.

The study focuses on the Listening Section of English National Examination in two academic years 2016/2017. It is only focused on investigating the difficult items and the difficult *learning objectives (indicators)* of English National Examination in academic years 2016/2017 that are tried out on twelfth-grade students at the State Senior High School 5 Pekanbaru. Therefore, two research questions are formulated as follows:

- 1) Which test items of national examination are categorized into difficult items of English National Exam 2016/2017?
- 2) Which learning objectives (indicators) are categorized into difficult of English National Exam 2016/2017 ?

METHOD

The research carried out is known as descriptive quantitative research. This study intended to collect information regarding the difficulty items of English National Examination Test in academic Year 2016/2017. The following will relate in detail how this information will collected. First, the research strategy will be outlined. Second, the procedures for implementing the strategy will be defined. Third, the variables of interest will be defined. Fourth, the test will be discussed. Finally, the analysis procedure to be applied to the data will be presented.

the investigation presented in this study is known descriptive research. it is defined as research that investigates

human experience through surveys. This study used a test to gather information about the difficulty items of English national examination test in academic year 2016/2017. All research questions will addressed through the use of a fifty-five test items. The test has been used to collect data from the third students of State Senior High School 5 Pekanbaru.

In this research, a study consideres that the population is more than 100 students. Therefore, the researcher selected 10% of the population as the sample. Furthermore, for the technique of taking the sample because the population is to large, simple random sampling had been used. According to Creswell (2012) in simple random sampling, any individual has the same probability to be the participants. So, in this research, the researcher selected 43 out of 429 students.

The test was focused on the English national examination test that already used in the previous English national examination. It used English national examination in academic year 2016/2017. According to Cohen L (2007, p. 421) test is a subject to the item analysis. To analyze the quantitative data, the researcher will collect the data from students' answer distribution. It was collected by recapitulating students' answers. It was done by writing down score 1 for correct answer and 0 for wrong answer. This method was used in multiple-choice. This scoring was done by standardizing the students' answer with the key answer. However, to know the items difficulty standardized by BSNP (2017), the data below will represent the diagnosis of the difficulties in the English national examination academic year 2016/2017.

TABLE 4.1.

Blueprint of the Indicators of the English National Examination in 2016/2017

No	Competency	Indicators	Items
1	LISTENING Understanding the meaning of formal and informal interpersonal or transactional discourse in the context of everyday life, especially in the form of short functional text, recount, news item, report, narrative, descriptive and review.	Determine the general description or specific / detailed information of a formal or informal interpersonal / transactional conversation.	1, 2, 3, 4
		Determine the appropriate response to formal or informal transactional / interpersonal conversations.	5, 6, 7
		Define an image that matches the monologue text that is played.	8, 9, 10, 11
		Determine the general or specific / implied / detailed information of a monologue text that is played.	12, 13, 14, 15
2	READING Understanding the meaning in written discourse formally and informally in the context of daily life, in the form of short functional text, recount, news item, report, analytical exposition, hortatory exposition, explanation, discussion and review	Determine the general or detailed / implied / specific description or meaning of the word / phrase / sentence or main thought paragraph / reference or communicative purpose of short functional text in the form of letter / e-mail .	24,25,26
		Determining specific / detailed / implied information or the meaning of the word / phrase / sentence or general description / communicative purpose / main thought of the paragraph / reference of the written text in the form of a recount .	16,17
		Determining specific / detailed / implied information or the meaning of the word / phrase / sentence or general description / communicative purpose / main thought of the paragraph / reference of the written text in the form of a procedure	20,21,22,23
		Determine the general or specific / implied / detailed information or the main thought of the paragraph or the meaning of	

		the word / phrase / sentence or communicative word / purpose of the written text in the form of an exposition .	27,28,29
		Determine the general description or the main thoughts of paragraphs or implied / specific / detailed information or communicative purposes or the meaning of words / phrases / sentences or word references from written texts in the form of a discussion .	43, 44, 45
		Determine the general description or the main thoughts of paragraphs or implied / specific / detailed information or communicative purposes or the meaning of words / phrases / sentences or word references from written texts in the form of a biography .	39, 40,41,42
		Determine the general description / communicative purpose/ main thought of the paragraph or implied information / detailed / specific or meaning of word / phrase / sentences or word references from written text in the form of report	31,32,33,34,35,36,37, 38,45
		Determine the general or specific / detailed / implicit / implied information or the meaning of the word / phrase / phrase or word reference of a short functional text in the form of an announcement / message .	18, 19
		Determine the general description / communicative purpose/ main thought of the paragraph or implied information / detailed / specific or meaning of word / phrase / sentences or word references from written text in the form of descriptive .	47, 48, 49, 50
3	WRITING expresses the meaning in writing formally or informally in the context of everyday life, in the form of short functional text or essay in the form of recount, narrative, procedure,	Completing 3 passes in short text in the form of recount / procedure / narrative / descriptive / report with appropriate vocabulary / phrase.	30, 46

	descriptive and report.		
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After acquiring the data, they are analyzed by the difficulty level. The number shows difficulty or easiness of the test items, which is known as difficulty index or level of difficulty. Therefore, the writer used the formula from Evrero and Sylvanus (2015). The classifications of level difficulty of items, the writer used were Evrero and Sylvanus (2015, p.21), that is:

- a) $P = 0, 00$: test items are too difficult
- b) $0.00 < P \leq 0.30$ or $0.00 - 0.30$: test items are difficult
- c) $0.30 < P \leq 0.70$ or $0.31 - 0.70$: test items are medium
- d) $0.70 < P \leq 1.00$ or $0.71 - 1.00$: test items are easy
- e) $P = 1$: test items are too easy.

And then to analyze the score of students all, the writer used the descriptive statistical analysis. In according to Singh (2006, p. 224) said that descriptive statistical analysis is concerned with the numerical description of a particular group observed and any similarity to those outside the group cannot be taken for granted. The data describe one group and that one group only. Much simple educational research involves descriptive statistics and provides valuable information about the nature of a particular group or class.

RESULTS

This section described the data of the students' answer of English National Examination academic year 2016/2017. Therefore, 50 items had given for the students, and the test was multiple choice. The English National Examination was focus on the difficult items of English National Examination test and also the difficult learning objectives (indicators) of the English National Examination academic year 2016/2017 from students' answer of the third grade student at State Senior High School 5 Pekanbaru.

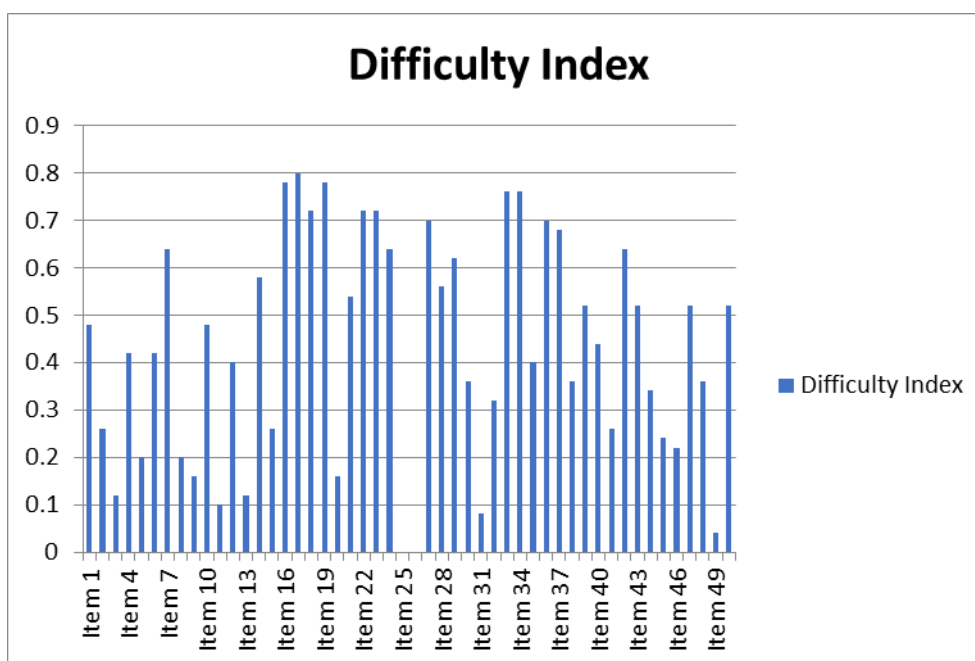
The Difficult Items in English National Examination Academic Year 2016/2017

The difficulty level from Evrero and Sylvanus (2015), found that the difficult items that occurs in academic year 2015/2016 are The item 1 was 0.48, item 2 was 0.26, item 3 was 0.12, item 4 was 0.42, item 5 was 0.2, item 6 was 0.42, item 7 was 0.64, item 8 was 0.2, item 9 was 0.16, item 10 was 0.48, item 11 was 0.1, item 12 was 0.4, item 13 was 0.12, item 14 was 0.58, item 15 was 0.26, item 16 was 0.78, item 17 was 0.8, item 18 was 0.72, item 19 was 0.78, item 20 was 0.16, item 21 was 0.54, item 22 was 0.72, item 23 was 0.72, item 24 was 0.64, item 25 was 0, item 26 was 0, item 27 was 0.7, item 28 was 0.56, item 29 was 0.62, item 30 was 0.36, item 31 was 0.08, item 32 was 0.32, item 33 was 0.76, item 34 was 0.76, item 35 was 0.4, item 36 was 0.7, item 37 was 0.68, item 38 was 0.36,

item 39 was 0.53, item 40 was 0.44, item 41 was 0.26, item 42 was 0.64, item 43 was 0.52, item 44 was 0.34, item 45 was 0.24, item 46 was 0.22, item 47 was 0.53, item 48 was 0.36, item 49 was 0.04, and item 50 was 0.52. the data are illustrated on the following chart.

Figure 5.1

Difficulty Index of English National Examination Test Items 2016/2017



The classifications of level difficulty of items, the writer used Evroro and Sylvanus (2015, p.21), that is:

TABLE 5.1

The Difficulty Level of English National Examination Test Items 2016/2017

Difficulty Level	Items	Total Number of items
Difficult	2,3,5,8,9,11,13,15,20,	16 items
	25,26,31,41,45,46,49	
Moderate	1,4,6,7,10,12,14,21,	26 items
	24,27,28,29,30,32,35,	
	36,37,38,39,40,42,43,44, 47,48,50	
Easy	16,17,18,19,22,23,33,34	8 items

Total	50 items
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The Learning Objectives (indicators) Categorized into Difficult of English National Examination 2016/2017

Based on the data analysis about the items percentages and the difficulty level, these are learning objectives that categorized into difficult level of English National Examination 2016/2017. 16 items indicated difficult items, and there were 11 indicators categorized into difficult level as follows.

- a. **The indicator 1** , that was determining the general description or specific / detailed information of a formal or informal interpersonal / transactional conversation, specifically in Determine the general description of an informal interpersonal conversation. And this was indicated from item 2 and 3.
- b. **The indicator 2**, that was determine the appropriate response to formal or informal transactional / interpersonal conversations, specifically in determining appropriate response to formal transactional conversations. And it has represented by item 5.
- c. **The indicator 3**, that was define an image that matches the monologue text that is played, specifically in define an image that matches the monologue text that is played. And it has represented by items **8, 9, 11**.
- d. **The indicator 4**, that was Determine the general or specific / implied / detailed information of a monologue text that is played, specifically in determining the implied / information of a monologue text that is played. And it has represented by item **13 and 15**.
- e. **Indicator 5**, that was Determine the general or detailed / implied / specific information or meaning of the word / phrase / sentence or main idea paragraph / reference or communicative purpose of short functional text in the form of **letter / e-mail**, specifically in determining the implied and meaning of the word and sentence short functional text in the form of letter / e-mail. And it has represented by item **25 and 26**.
- f. **Indicator 7**, it was determining the general or detailed / implied / specific description or meaning of the word / phrase / sentence or main idea paragraph / reference or communicative purpose of short functional text in the form of **procedure**, specifically in determining the general of the main idea paragraph of short functional text in the form of **procedure**. And it has represented by item **20**.
- g. **The indicator 9**, that was determining the general description or the main thoughts of paragraphs or implied / specific / detailed information or communicative purposes or the meaning of words / phrases / sentences or word references from written texts in the form of a **discussion**, specifically in determining the implied information from written texts in the form of a **discussion**. And it has represented by item **45**.
- h. **The indicator 10**, that was determining the general description or the main thoughts of paragraphs or implied / specific / detailed information or communicative purposes or the meaning of words / phrases / sentences or word references from written texts in the

form of a **biography**, specifically in determining the specific information from written texts in the form of a **biography**. And it has represented by item **41**.

- i. **The indicator 11**, that was determining the general description / communicative purpose/ main thought of the paragraph or implied information / detailed / specific or meaning of word / phrase / sentences or word references from written text in the form of report., specifically in determining the communicative purpose from written text in the form of **report**. And it has represented by item **31**.
- j. **The indicator 13**, that was determining the general description / communicative purpose/ main thought of the paragraph or implied information / detailed / specific or meaning of word / phrase / sentences or word references from written text in the form of **descriptive**, specifically in determining the implied information from written text in the form of descriptive. And it has represented by item **49**.
- k. **The indicator 14**, that was completing 3 passes in short text in the form of recount / procedure / narrative / descriptive / report with appropriate vocabulary / phrase, specifically in completing 3 passes in short text in the form of discussion. And it has represented by item **46**.

CONCLUSION

The article has presented the result of the difficult items in listening test at senior high school 1 Tambang. The writer depicts the conclusions that is divided into two; 1) Which test items of national examination are categorized

into difficult items of English National Exam 2016/2017. 2) Which learning objectives (indicators) are categorized into difficult of English National Exam 2016/2017?

The classifications of level difficulty of items, the writer used Evroro and Sylvanus (2015, p.21). the difficulty level of item shows that 16 item are categorized into difficult level (32%), 26 items are categorized into moderate level (52%), and 6 items are categorized into easy level (16%).

The learning objectives that categorized into difficult level of English National Examination 2016/2017 are 16 items, which are 11 indicators indicated into difficult level.

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