Investigating the English Reading Tests of Indonesia's National Examination for Vocational School (SMK) Based on Bloom's Taxonomy

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Abstract: *This research article was about identifying and analyzing the cognition levels of English reading tests in Indonesia's national examination which refer to Bloom's taxonomy (1956), such as: knowledge, comprehension, application, analysis, synthesis, and evaluation. This study was a qualitative research which was conducted by applying documentary analysis. The subjects of this research were the documents of national examination questions for Vocational School (SMK) from year 2005 to 2011. The object of this research was the level of difficulties of reading section questions. The researcher found out that there were only 3 levels that had been tested for reading section in the national examination: comprehension (55,8%), analysis (25%), and knowledge (19,2 %). Other levels such as: application, synthesis, and evaluation are null. This also means that comprehension is the most dominant level of cognition that has been examined in National Examination. This study concluded that reading tests of Indonesia's National Examination for English subject from year 2005-2011 were not in line with Bloom's perception.*

Keywords: *Knowledge, Comprehension, Application, Analysis, Synthesis, Evaluation*

I. INTRODUCTION

National Examination is a standard evaluation system of primary and secondary education in Indonesia and the equation of quality of education levels among the areas that conducted by the Center for Educational Assessment. The English subject which is examined in national examination has been focused on listening and reading skills. The number of listening test is less than reading test. There are usually 15 multiple-choice questions for listening test, and the rest 35 questions in multiple-choice form are for reading test.

Since the reading test is more dominant (approximately 70% from the whole questions) than listening test, then it is very crucial for English teachers to give more reading exercises to their students to enable them facing the national examination. But it is not an easy task for teachers, they need to figure and analyze the level of cognition used in reading section of national examination. This research intended to help teachers of English in analyzing the cognition level of English reading test of Indonesia's national examination. So that, after they reveal the level of cognition, they will know which level of cognition should be given more in the students' reading exercises.

In line with the background, this research was conducted to answer these problems:

1. How is the percentage of cognition levels for reading section of national examination from year 2005-2011?
2. What level of cognition is dominantly examined for reading section of national examination from year 2005-2011?

In order not to be broadly discussed, the researcher makes some scopes for this research. Firstly, the level of difficulties of reading text (or it is called as level of cognition) refer to knowledge, comprehension, application, analysis, synthesis, and evaluation (based on Bloom's taxonomy). Secondly, there are two skills that have been examined in national examination: listening and reading. So, the focus of this research is only in reading section of national examination. Thirdly, the questions for English subject of national examination that will be analyzed are limited from year 2005 to 2011. These 6 documents are considered appropriate to prepare the students' cognition in facing national examination.

II. THEORETICAL REVIEW

2.1 Subjective and Objective Tests

Subjective and objective are terms used to refer to the scoring of tests. The distinction here is between methods of scoring. Hughes (2003:22) explains that if no judgment is required on the part of the scorer, then the scoring is *objective*. A multiple choice test, with the correct responses unambiguously identified, would be a case in point. If judgment is called for, the scoring is said to be *subjective*. There are different degrees of subjectivity in testing. The impressionistic scoring of a composition may be considered more subjective than the scoring of short answers in response to questions on a reading passage.

Henning (2001:4) exposed that a subjective test is to require scoring by opinionated judgment, hopefully based on insight and expertise, on the part of the scorer. An example might be the scoring of free written compositions (essays) for the presence of creativity in a situation where no operational definitions of creativity are provided and where there is only one rater. Conversely, an objective test is one that may be scored by comparing examinee responses with an established set of acceptable responses or scoring key. No particular knowledge or training in the examined content area is required on the part of the scorer. A common example would be a multiple-choice test.

Speaking of strengths and weaknesses, Gronlund (1985:177-180) explained strengths and weaknesses of using multiple-choice test. The strengths of multiple-choice are: (1) to allow more adequate sampling of content, (2) to tend to more effectively structure the problem to be addressed, (3) items can be more efficiently and reliably scored, (4) items can be constructed to address various level of cognition, (5) require less time to administer for a given amount of material than would tests requiring written responses. While the weaknesses of using multiple-choice test are such as: (1) types of cognition that can be assessed by multiple choice tests are limited so that measuring synthesis and evaluation can be difficult, (2) possibility for ambiguity in the students' interpretation of the item, (3) a student who is incapable of answering a particular question can simply select a random answer and still have a chance of receiving a mark for it.

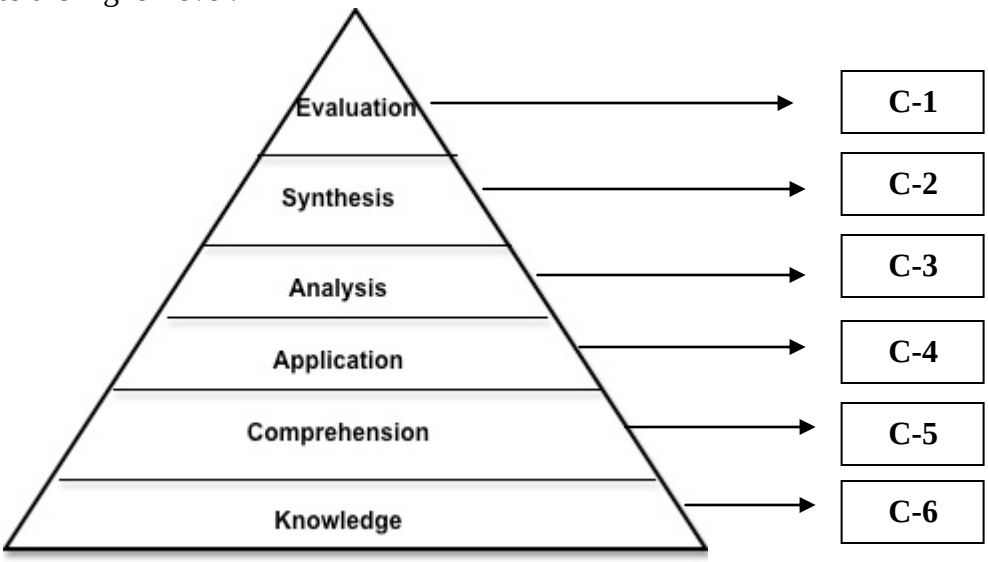
2.2 Level of Cognition

The cognitive domain, described by Dr. Benjamin Bloom, is one of the best known educational domains. It contains additional levels of knowledge and understanding and is commonly referred to as Bloom's taxonomy of educational objectives.

The cognitive domain (Bloom, 1956) involves knowledge and the development of intellectual skills. This includes the recall or recognition of specific facts, procedural patterns, and concepts that serve in the development of intellectual abilities and skills. There are six major categories, which are listed in order below, starting from the simplest behavior to the most

complex. The categories can be thought of as level of difficulties. That is, the first one must be mastered before the next one can take place.

Below is a chart of level of difficulties (level of cognition) in which describes from lower level to the higher level.



The pyramid chart shows that knowledge, as the lower level of difficulties, takes wider place which means it is frequently tested, while evaluation, as the higher level of difficulties, takes narrower place which means it is rarely tested. It is required that we learn the lower levels before we can effectively use the skills above.

The summary of Bloom's Taxonomy in cognitive domain can be seen in this table that shows each category with its examples and key words.

Category	Example and Key Words
Knowledge: Recall data or information.	**Examples**: Recite a policy. Quote prices from memory to a customer. Knows the safety rules. **Key Words**: defines, describes, identifies, knows, labels, lists, matches, names, outlines, recalls, recognizes, reproduces, selects, states.
Comprehension: Understand the meaning, translation, interpolation, and interpretation of instructions and problems. State a problem in one's own words.	**Examples**: Rewrites the principles of test writing. Explain in one's own words the steps for performing a complex task. Translates an equation into a computer spreadsheet. **Key Words**: Comprehends converts, defends, distinguishes, estimates, explains, extends, generalizes, gives Examples, infers, interprets, paraphrases, predicts, rewrites, summarizes, translates.
Application: Use a concept in a new situation or unprompted use of an abstraction. Applies what was	**Examples**: Use a manual to calculate an employee's vacation time. Apply laws of statistics to evaluate the reliability of a written test. **Key Words**: applies, changes, computes, constructs,

learned in the classroom into novel situations in the work place.	demonstrates, discovers, manipulates, modifies, operates, predicts, prepares, produces, relates, shows, solves, uses.
Analysis: Separates material or concepts into component parts so that its organizational structure may be understood. Distinguishes between facts and inferences.	**Examples**: Troubleshoot a piece of equipment by using logical deduction. Recognize logical fallacies in reasoning. Gathers information from a department and selects the required tasks for training. **Key Words**: analyzes, breaks down, compares, contrasts, diagrams, deconstructs, differentiates, discriminates, distinguishes, identifies, illustrates, infers, outlines, relates, selects, separates.
Synthesis: Builds a structure or pattern from diverse elements. Put parts together to form a whole, with emphasis on creating a new meaning or structure.	**Examples**: Write a company operations or process manual. Design a machine to perform a specific task. Integrates training from several sources to solve a problem. Revises and process to improve the outcome. **Key Words**: categorizes, combines, compiles, composes, creates, devises, designs, explains, generates, modifies, organizes, plans, rearranges, reconstructs, relates, reorganizes, revises, rewrites, summarizes, tells, writes.
Evaluation: Make judgments about the value of ideas or materials.	**Examples**: Select the most effective solution. Hire the most qualified candidate. Explain and justify a new budget. **Key Words**: Appraises compares, concludes, contrasts, criticizes, critiques, defends, describes, discriminates, evaluates, explains, interprets, justifies, relates, summarizes, supports.

III. RESEARCH METHOD

This research was a qualitative study and conducted documentary analysis. A qualitative research is concerned primarily with process, meaning, and understanding, rather than outcomes or procedures (Creswell 1994: 145). This research concerned with the understanding towards level of cognition from English reading section in National Examination and ignores the students' outcomes or results during the examination. A documentary analysis represents data that are thoughtful in that informants have given attention to compiling (Creswell, 2003:150). The documents used in this research were the national examination questions for English subject from year 2005-2011.

The data were analyzed by conducting documentary analysis with regard to Bloom's taxonomy in cognitive domain. Each question was analyzed based on its level of difficulties. After all questions had been classified based on its cognition level, then the researcher tabulated the percentage of each questions based on its year. Lastly by showing the percentage, the researcher determined which cognition level was dominantly examined.

IV. RESEARCH FINDINGS AND DISCUSSION

4.1 Research Findings

The findings of this research were:

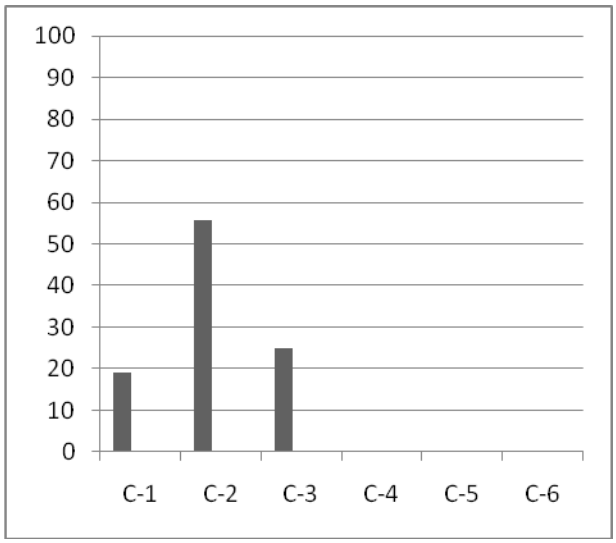
1) The percentage of cognition levels for reading section of national examination from school year 2004/2005 to 2010/2011 can be described into several points below:
   a. In National Examination for school year 2004/2005, knowledge is tested for 3 questions (10%), comprehension for 17 questions (56,7%), and analysis for 10 questions (33,3%).
   b. In National Examination for school year 2005/2006, knowledge is tested for 10 questions (28,6%), comprehension for 13 questions (37,1%), and analysis for 12 questions (34,3%).
   c. In National Examination for school year 2006/2007, knowledge is tested for 9 questions (25,8%), comprehension for 13 questions (37,1%), and analysis for 13 questions (37,1%).
   d. In National Examination for school year 2007/2008, knowledge is tested for 5 questions (14,3%), comprehension for 20 questions (57,1%), and analysis for 10 questions (28,6%).
   e. In National Examination for school year 2008/2009, knowledge is tested for 6 questions (17,1%), comprehension for 24 questions (68,6%), and analysis for 5 questions (14,3%).
   f. In National Examination for school year 2009/2010, knowledge is tested for 6 questions (17,1%), comprehension for 24 questions (68,6%), and analysis for 5 questions (14,3%).
   g. In National Examination for school year 2010/2011, knowledge is tested for 7 questions (20%), comprehension for 23 questions (65,7%), and analysis for 5 questions (14,3%).

The description above can be simplified into a table below:

Level of Cognition	Number of Questions in School Year:							Total
	2005	2006	2007	2008	2009	2010	2011	
1. Knowledge	3	10	9	5	6	6	7	46
2. Comprehension	17	13	13	20	24	24	23	134
3. Application	0	0	0	0	0	0	0	0
4. Analysis	10	12	13	10	5	5	5	60
5. Synthesis	0	0	0	0	0	0	0	0
6. Evaluation	0	0	0	0	0	0	0	0
Total	30	35	35	35	35	35	35	240

Level of Cognition	Percentage (%) of Cognition Level							Total
	2005	2006	2007	2008	2009	2010	2011	
1. Knowledge	10,0	28,6	25.8	14,3	17,1	17,1	20,0	19,2
2. Comprehension	56,7	37,1	37,1	57,1	68,6	68,6	65,7	55,8
3. Application	0	0	0	0	0	0	0	0
4. Analysis	33,3	34,3	37,1	28,6	14,3	14,3	14,3	25,0
5. Synthesis	0	0	0	0	0	0	0	0
6. Evaluation	0	0	0	0	0	0	0	0
Total (%)	100	100	100	100	100	100	100	100

2) Table of percentage above showed the dominant level of cognition was comprehension for 55,8 %. It also showed that analysis and knowledge for 25% and 19,2 %. While others (application, synthesis, and evaluation) are null. Below is a chart to describe the portion of three levels of cognition that have been examined for SMK level



Note:
C-1: Knowledge
C-2: Comprehension
C-3: Application
C-4: Analysis
C-5: Synthesis
C-6: Evaluation

4.2 Discussion

National Examination (commonly abbreviated as UN or UNAS) is a test to measure and evaluate the students' competence nationally by the central government after the process of teaching and learning (Peraturan Menteri Pendidikan Tahun 2005:1). It is a standard evaluation system of primary and secondary education in Indonesia and the equation of quality of education levels among the areas that conducted by the Center for Educational Assessment. Depdiknas in Indonesia based on Undang-Undang Republik Indonesia nomor 20 tahun 2003 states that in order to control the quality of education nationwide to be evaluated as a form of accountability of education providers to the parties concerned.

Further stated that the evaluations conducted by independent agencies on a regular basis, comprehensively, transparently, and systematically to assess the achievement of national education standards and the monitoring process evaluation should be done continuously. Evaluation of the monitoring process is carried out continuously and continuous in the end will be able to fix the quality of education.

The main goal of the National Examination is to measure and assess the students' knowledge and competence in particular subjects they have learned. It is also going to be used as one of consideration for four purposes: first, as a means of mapping Indonesia's national education quality; second as a basis to determine whether students can pass and proceed from one educational level to another level; third, as the main consideration on whether to accept new students in the upper levels of education; fourth, as a basis to supervise and assist particular schools in order to achieve the quality of national education.

There are five subjects for vocational high school (Sekolah Menengah Kejuruan/SMK) students to be examined nationally by the government, namely: Indonesian Language, English Language, Mathematics, Theory and Practice for Vocational Competency. These subjects were examined in two stages, at first, examination of Practice for Vocational Competency which was

held by each school and evaluated by both teachers and industry partners. Secondly, the main examination includes Indonesian Language, English Language, Mathematics, and Theory for Vocational Competency.

Improving the quality of education begins with the determination of the standard. Determination standards continue to rise is expected to encourage increased quality of education, which is the determination of educational standards is the determination of the limit value (cut-off score). Someone said to have passed (competent) when it has passed the limit value of the boundary between learners who have mastered certain competencies with learners who have not mastered certain competencies. When that happens on the national exam or school then the boundary value function to separate the students who graduated and did not pass is called the limit of graduation, graduation delimitation activities called standard setting. Benefits of standard setting final exam are: (1) the limit of graduation each subject in accordance with the demands of minimum competency, and (2) the same standards for each subject as a minimum standard of competency achievement.

The standard score of national examination from year 2005-2011 can be seen from table below:

Year	Minimum Score	Minimum Average
2005	4,25	5,25
2006	4,25	4,50
2007	5,00	5,00
2008	4,25	5,25
2009	4,25	5,50
2010	4,25	5,50
2011	4,25	5,50

During this national exam graduation delimitation is determined by agreement between the decision makers only. Limit is determined the same grade for each subject. The characteristics of subjects and skills of students are not the same. It was not a consideration of education decision-makers. Not necessarily in a certain education level, each subject has the same standard as a minimum standard of competency achievement. There are subjects that require a high minimum competency achievement, while other subjects did not specify that high. This situation becomes unfair for students, because the required capacity exceeds the maximum capability.

V. CONCLUSION

The findings of this research revealed that reading tests of National Examination for English subject from year 2005-2011 were not in line with Bloom's perception. The portion of questions for comprehension level should be lesser than knowledge level. The absence of application, synthesis, and evaluation can be explained because they are not suitable for multiple-choice form of question. Application is more suitable for performance test. Synthesis and evaluation are more appropriate if they are tested in form of essay because those kinds of question need to be elaborated with some examples and opinion. Synthesis and evaluation are usually tested in examination for university students.

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