An Analysis of the Ninth Grade English Test Questions Based on the Revised Edition of Bloom's Taxonomy

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Abstract

This study aimed at identifying and analyzing the types and levels of questions available in the ninth grade English language test which are used in Junior High School in Depok during the academic year 2012-2013.The purpose of the analysis was to determine the distribution of the questions over the six levels of the new version of Bloom's Taxonomy of the cognitive domain. A classroom test does not focus only on students' knowledge or problems with the language, but furthermore, it is concerned with evaluation for the purpose of enabling teachers to increase their own effectiveness by making adjustment in their teaching. The sample of the study consisted of the Ninth grade English language test where the researcher analyzed 50 questions. A study analysis sheet was prepared and used in the classification of the questions according to the new version of Bloom's Taxonomy to achieve the purposes of the study. The results show that understanding the levels of questions is necessary. They lead the students to have deep understanding toward the questions presented, so that in answering the questions, they will become easier to answer. In light of the results, the researcher recommended to improve the questions in the English test to cover the six levels of the new version of Bloom's Taxonomy and to train teachers and designers of curriculum to use and write questions following the new version of Bloom's Taxonomy.

Keywords: *ninth grade, new version of Bloom's Taxonomy, English language test*

1. Introduction

Bloom's Taxonomy is a multi-tiered model of classifying thinking according to six cognitive levels of complexity. Throughout the years, the levels have often been depicted as a stairway, leading many teachers to encourage their students to climb to a higher level of thought. The lowest three levels are: knowledge, comprehension, and application. The highest three levels are: analysis, synthesis, and evaluation. The cumulative hierarchical framework consisting of six categories each requiring achievement of the prior skill or ability before the next, more complex, one, remains easy to understand. Out of necessity, teachers must measure their students' ability. Accurately doing so requires a

classification of levels of intellectual behavior important in learning. Bloom's Taxonomy provided the measurement tool for thinking.

When assessing students' learning, it is important to take into account the type of knowledge we are trying to assess. More specifically, we need to design assessments such that any differences in how students perform depend on their proficiency with what we are trying to assess. Stated negatively, we do not want to use tasks in an assessment that students can successfully complete using knowledge not relevant to the competency being evaluated. We can improve the chances of measuring the appropriate competency by knowing the types of learned capabilities involved. This is because different types of tasks are particularly effective at assessing the different types of capabilities. Various classification schemes have been used to identify types of capability. One is the set of categories proposed some time ago by Bloom (1956) that is still widely used in education.

Furthermore this research is important to help the teacher to select and evaluate the effectiveness of the syllabus as well as the methods and materials that he or she uses. Since teachers are primarily responsible for evaluating instruction and student learning, there is a widespread concern about the quality of classroom assessment. Students' learning can be measured by different procedures. One of these procedures, which are widely used by teachers in the classroom, is the achievement test. Good achievement tests are supposed to measure different levels of learning. Bloom (1956), suggested six different levels in learning from the simple recall or recognition of facts, as the lowest level, to the highest order, which is evaluation.

Bloom's Taxonomy represents a tool for planning, implementing and assessing instruction. It provides educators with a common frame of reference that clarifies various types of learning outcomes. It illustrates the wide array of learning outcomes that can be included in any given instructional area. The taxonomy helps teachers focus on the outcomes, specifically instructional objectives that they want their students to attain as a result of instruction. The taxonomy gives educators a precise and common language for articulating the intended outcomes of their teaching in terms of student learning. McMillan (2004,

p. 7) stated that “the taxonomy to be valuable to today’s teachers because it provides a comprehensible list of possible learning outcomes with action verbs that operationalize learning targets.” The goal of an educator using Bloom's taxonomy is to encourage higher-order thought in their students by building up from lower-level cognitive skills. Bloom taxonomy was providing teachers with the skills to develop in their learners according to each one's specific learning environment.

Based on the explanation above the writer is interested in finding out and would like to do research in analysis English test based on revised Bloom’s taxonomy. It is important to do this research because to achieve a good test that measure different levels of learning is not an easy task.

2. Literature Review

Bloom's taxonomy is a model of the stages and progression of critical thinking. Krathwohl, Bloom, and Masia (1965, p. 11) stated that “A true taxonomy is a set of classifications which are ordered and arranged on the basis of a single principle or on the basis of a consistent set of principles. Such a true taxonomy may be tested by determining whether it is in agreement with empirical evidence and whether the way in which the classifications are ordered corresponds to a real order among the relevant phenomena. The taxonomy must also be consistent with sound theoretical views available in the field. Where it is inconsistent, a way should be developed of demonstrating or determining which alternative is the most adequate one. Finally, a true taxonomy should be of value in pointing to phenomena yet to be discovered”. The expressed purpose of the taxonomy was to develop a codification system whereby educators could design learning objectives that have a hierarchical organization.

Bloom's Taxonomy is a multi-tiered model of classifying thinking according to six cognitive levels of complexity. The lowest three levels are: knowledge, comprehension, and application. The highest three levels are: analysis, synthesis, and evaluation. According to UW Teaching Academy (2003, p. 10) stated "The taxonomy is hierarchical; [in that] each level is subsumed by the higher levels. In other words, a student functioning at the 'application' level

has also mastered the material at the 'knowledge' and 'comprehension' levels." The higher one gets on the pyramid, the higher order thinking is demanded. This taxonomy is a hierarchical structure representing six levels of thinking and learning skills that range from basic learning objectives such as knowledge of content through higher-order learning such as synthesis, evaluation, and creativity.

During the 1990s, a former student of Bloom, Lorin Anderson, led a new assembly which met for the purpose of updating the taxonomy, hoping to add relevance for 21st century students and teachers. This time "representatives of three groups [were present]: cognitive psychologists, curriculum theorists and instructional researchers, and testing and assessment specialists" (Anderson, & Krathwohl, 2001, p. xxviii). Like the original group, they were also arduous and diligent in their pursuit of learning, spending six years to finalize their work. Published in 2001, the revision includes several seemingly minor yet actually quite significant changes. Several excellent sources are available which detail the revisions and reasons for the changes. A more concise summary appears here. The changes occur in three broad categories: terminology, structure, and emphasis.

Changes in terminology between the two versions are perhaps the most obvious differences and can also cause the most confusion. Basically, Bloom's six major categories were changed from noun to verb forms. Additionally, the lowest level of the original, knowledge was renamed and became remembering. Finally, comprehension and synthesis were re-titled to understanding and creating. In an effort to minimize the confusion, comparison images appear below.

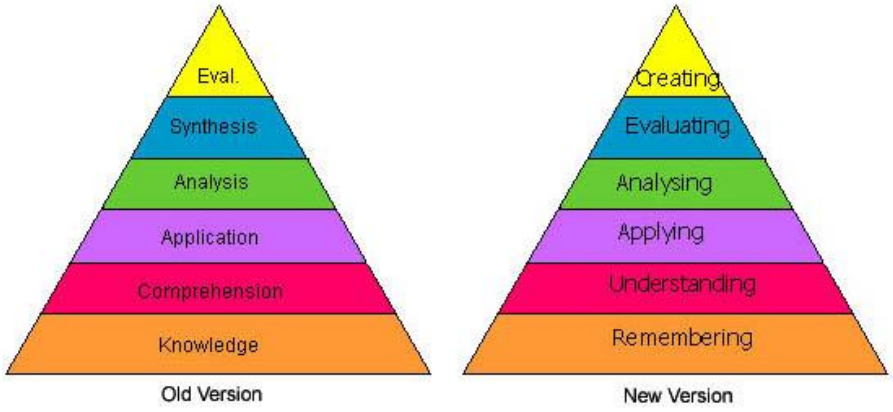

Figure 1. Terminology changes

The graphic is a representation of the NEW verbiage associated with the long familiar Bloom's Taxonomy. Note the change from Nouns to Verbs [e.g., Application to Applying] to describe the different levels of the taxonomy. Note that the top two levels are essentially exchanged from the Old to the New version" (Schultz, 2005). Evaluation moved from the top to Evaluating in the second from the top. Synthesis moved from second on top to the top as Creating. The new terms are defined as:

a. **Remembering**

   Retrieving, recalling, or recognizing knowledge from memory. Remembering is when memory is used to produce definitions, facts, or lists, or recite or retrieve material.

b. **Understanding**

   Constructing meaning from different types of functions be they written or graphic messages activities like interpreting, exemplifying, classifying, summarizing, inferring, comparing, and explaining.

c. **Applying**

   Carrying out or using a procedure through executing, or implementing. Applying related and refers to situations where learned material is used through products like models, presentations, interviews or simulations.

d. **Analyzing**

   Breaking material or concepts into parts, determining how the parts relate or interrelate to one another or to an overall structure or purpose. Mental actions included in this function are differentiating, organizing, and attributing, as well as being able to distinguish between the components or parts. When one is analyzing he/she can illustrate this mental function by creating spreadsheets, surveys, charts, or diagrams, or graphic representations.

e. **Evaluating**

   Making judgments based on criteria and standards through checking and critiquing. Critiques, recommendations, and reports are some of the products that can be created to demonstrate the processes of evaluation. In

the newer taxonomy evaluation comes before creating as it is often a necessary part of the precursory behavior before creating something.

f. Creating

Putting elements together to form a coherent or functional whole; reorganizing elements into a new pattern or structure through generating, planning, or producing. Creating requires users to put parts together in a new way or synthesize parts into something new and different a new form or product. This process is the most difficult mental function in the new taxonomy.

3. Discussion

The data is classified into six main categories of thinking skills: 1) remembering, 2) understanding, 3) Applying, 4) analysing, 5) evaluating, and 6) creating.

3.1. Remembering

Remembering is the lowest level of learning in the cognitive domain in Bloom's Taxonomy and typically does not bring about a change in behavior. It involves memorization and recall of information with no evidence of understanding. Learners absorb, remember, recognize and recall information. However, it is the building block of all subsequent levels of learning because the learner must remember information presented before progressing to the next levels.

Remembering level objectives are the knowledge of specific facts, terminology, date, persons. For instance answering the following question requires very little reasoning, only recalling the simple knowledge of the meaning of the underline word.

(1) "Please be <u>friendly</u> ....." What is the meaning of the underlined word?

A. Disturbing
B. Interesting
C. Welcoming
D. Attracting

(2) It was the last day of the year and a large crowd of people had gathered under the Town Hall clock. What is the closest meaning of the underlined word?

A. Tiny
B. Big
C. Small
D. Little

Remembering question is one which requires the student to recall or recognize information (facts, terminology, generalizations, theories, values, procedures, and skills) accumulated from past experience. This is not as simple as it may seem. Understanding what we do not know, versus what we do know, is not always readily apparent. Retrieving, recalling, or recognizing knowledge from memory. Remembering is when memory is used to produce definitions, facts, or lists, or recite or retrieve material.

At this level the students read material, listen to lectures, watch videos, take notes; they pass 'True/False', 'Yes/No', 'multiple choice', or 'fill in the blank' tests which demonstrate their general knowledge of the subject. They learn the vocabulary or terminology as well as the conventions or rules associated with the subject. The students can recall information about the subject, topic, competency, or competency area; they can recall the appropriate material at the appropriate time. They have been exposed to and have received the information about the subject; thus, they can respond to questions, perform relevant tasks, and so on.

3.2. Understanding

Understanding is the first level of understanding information, requiring that a learner be able to appreciate the context surrounding data. Most learners achieve understanding, if only to meet educational expectations. Unless reinforced through application, understanding fades with time.

Understanding refers to the ability to grasp the meaning of material. This may be shown by translating material from one form to another (words to numbers), interpreting material (explaining or summarizing), estimating future

trends (predicting consequences or effects). Goes one step beyond the simple remembering of material, and represent the lowest level of understanding.

(1) "It is giant doll with a horrible face." The underlined word has similar meaning with....

A. Happy
B. Delighted
C. Amuse
D. Scary

From: Novi

Nissa…I came to your house at 4 this afternoon but you were out. I need my CD back. Please return it to me tomorrow.

(2) When did Novi want Nissa to bring the CD?

A. The day before
B. The next day
C. On that day
D. Today

The level of this question understanding since the focus of this question is ideas and information of reading text stated explicitly. Moreover, this question requires the students to concentrate in identifying and locating the explicit ideas and information that have been stated in reading text. Therefore, it will be difficult to the students if they do not read and keep in mind the ideas and information stated explicitly in reading text. This question is recall because it requires the students to produce from memory ideas and information explicitly stated in the reading selection. Indeed, it is classified as understanding. Hence, this question requires the students to provide from memory the order of incidents or actions explicitly stated in the selection.

3.3. Applying

Applying is the use of information or skills. To apply information or skills is to use the information in solving new problems. The ability to apply skills is

best tested in new situations or with new problems derived from those originally presented. Learners achieving application solve new problems by testing various information and skills they comprehend as potential solutions.

Applying refers to the ability to use learned material in new and concrete situations. This may include the application of such things as rules, methods, concepts, principles, laws, and theories. Learners effectively apply concepts, principles, methods, rules, laws, theories, and other newly learned information to novel and concrete situations in the form of measurable activity with minimal direction. In this stage, a change in behavior occurs. For example, a learner will conduct an effective negotiation session or perform conflict management via role-play. Learning outcomes in this area require a higher level of understanding than those under comprehension.

Applying refers to the ability to use learned material in new and concrete situations. For instance answering the following question requires the students to produce and call up from the memory about the ideas and information explicitly stated in reading text.

> A modem is an electronic device..... (1) to complete that allows the transfer of the data. The words "modem"..... (2) MODulator-DEModuator. Data can be transferred two ways using a modem. Data that is..... (3) is called uploading. There are various speeds of modem including 14.4, 28.8 and 33.2 baud. The lower of the baud is the slower of the speed of the modem to transfer the data.

(1)	A.	Tied	C.	Fastened
	B.	Knotted	D.	Attached
(2)	A.	Means	C.	Stands for
	B.	Refers to	D.	Denotes
(3)	A.	Means	C.	Obtained
	B.	Sent	D.	Taken

This question requires the students to produce and call up from the memory about the ideas and information explicitly stated in reading text. Indeed, this question is recall of character traits since this question requires the student to call up from memory the explicit statements about a modem. Furthermore, this

level of question has the function to lead the students to know the ability of the students in keeping in mind the information. To know these, the students are required to locate and identify all of information and ideas specifically stated about the information, so that it will be useful to avoid the missing information stated explicitly.

3.4. Analysing

Analysis refers to the ability to break down material into its component parts so that its organizational structure may be understood. The learner is able to break down information into smaller parts, including the identification of parts, analysis of relationships between parts, and recognition of the organizational principles involved so that its organizational structure may be understood.

An analysis question requires a student to solve a problem in the light of conscious knowledge of the parts and forms of thinking. For instance answering the following question requires the students to produce and call up from the memory about the ideas and information explicitly stated in reading text.

Paquilla Pizza

Authentic Italian Pizza by True-blue Neapolitan Chef

A cozy little restaurant with creamy sand-colored walls, deep-toned wood counters and furnishings and natural grey stone serve us with

Food and beverage:

- Italian cuisine
- Italian pizza and pasta
- Various kinds of juice
- Best Italian wine

Business Hour Details:

Sunday to Thursday : 11.30 AM to 2.30 PM
Friday to Saturday : 11.30 AM to 5.30 PM

Address:

30 Robertson Quay Riverside View
#01-14 Singapore 277798
Tel: +659484938

(1) Which sentences does not describe the restaurant?

A. The wall is painted cream.
B. It is a very big restaurant.
C. The counters are decorated with wood.
D. It furnished with the stones.

The level of this question is analysing. This question requires the students call up from the memory about the ideas and information explicitly stated in reading text. Therefore, after reading the text, the students have to keep in mind the information about the restaurant. Indeed, this question is recall of character traits since this question requires the students to call up from memory the explicit statements about characters which illustrate the restaurant. In the reading text, there is much information stated toward the restaurant. As a result, by giving this level, the students are encouraged to be able to identify explicit statement toward the characters that have been stated in the reading text. So that it will be useful to avoid the missing information stated explicitly. The student needs to identify the parts and the relationships among the parts of a communication to realize that rules of reasoning apply to the relationship identified, and to consciously determine whether the relationships among the parts satisfy the appropriate rules of reasoning.

3.5. Evaluating

Evaluation is marked by reasoning and judgment. The highest cognitive level in Bloom's Taxonomy, evaluation requires a learner to assign values to information and concepts. At the evaluation level, a learner makes independent choices, moving beyond what others have expressed or imparted. When a person evaluates information, he or she discriminates the subjective from the objective. Evaluation is rare, since all people are influenced by subjective forces. True evaluation requires a lack of biases and prejudices. Bloom theorized that evaluation is a cognitive level people reach for moments but do not sustain.

An evaluation question requires a student to make judgments about the value of ideas, items, materials, and more. It is at this level; where students are expected bring in all they have learned to make informed and sound evaluations of material. For instance answering the following question requires the students to

think and imagine the information and ideas beyond the printed page.

Announcement

This is a new school year and there are many new students around. Please be friendly and help them understand the rules of our school.

Principal

(1) Why does the principal make the announcement?

A. To ask the students to be nice and helpful to the new comers.
B. To let the students know they have their junior.
C. To ask the students to contact their parents.
D. To inform about the new school year.

This level of question is evaluation. This level requires the students to think and imagine the information and ideas beyond the printed page. This question gives the students an assumption toward the reason of the announcement that is not stated explicitly in the reading text. As a result, the students have to use their intuition and personal experience as a basis for understanding implicit conjunctures of the text. The character of this level is the students are asked to hypothesize the reason of the announcement character on the basis of explicit clues presented in the text. Furthermore, the students have to understand the announcement well.

The function of evaluation is to lead the students to think and imagine the information and ideas implicitly stated in the reading text. This level of question will make the students encourage their mind to understand beyond the printed page. In this case, the reader is asked to assume about reason of the announcement on the basis of explicit clues presented in the selection. Furthermore, the function of this level is to encourage the student's ability in exploring the function of an announcement in the reading text.

3.6. Creating

Creating is the creation of new ideas and generalizations based upon previous knowledge and experiences. Creativity is not the same as the ability to innovate, though creativity is essential to the innovation process. In revised

Bloom's Taxonomy, true creating is a goal seldom achieved in lesson plans. While a child might learn music, he or she might not be able to compose an innovative work. Derivative creation is not advanced creating; it does mark the beginnings of cognitive creating. This Level of Learning requires understanding, remembering, Application and Analysis Levels of Learning. There are 0 data or 0% of verbs in English text which is included in this term.

At this level students generate ideas and use them to create a physical object, a process, a design method, a written or oral communication, or even a set of abstract relations (e.g., mathematical models). They produce written or oral reports that have the desired effect (e.g., information acquisition, acceptance of a point of view, continued support, etc.) on the reader or listener. They generate project plans, propose designs and formulate hypotheses based on the analysis of relevant or pertinent factors. They are able to generalize from a set of axioms or principles.

4. Conclusion and Suggestions

4.1. Conclusion

After conducting this study, the results show that understanding the levels of questions is necessary. They lead the students to have deep understanding toward the questions presented, so that in answering the questions, they will become easier to answer. Besides, they will be able to understand the classification of the levels of questions and the aim of the questions presented. In other word, the test item that is given is expected to be correctly measure the comprehension of the student through the material.

The test is given to the student must have the characteristic or qualities in order to ensure the accurate information through the student comprehension. In order to improve the quality of teaching, it is believed that teacher must be able to set good or proper questions to test the students in the examination. A good and reasonable examination paper must consist of various difficulty levels questions to test different capabilities of students. The difficulty level of each question in the examination paper is determined from the criteria of keyword found in the

questions. It means that a well-constructed classroom test may be effectively used to motivate students.

4.2. Suggestions

This study has some suggestions for the English learners and the test developers as the followings:

- For the English learners, they are expected to increase their understanding on the levels of questions and their function. Hence, there are many levels of questions which have different function. In other words, every level of questions has different function one to another. So, by having more understanding about it, they expected be able to use it appropriately as well as its function in doing the test.
- For the test developers are expected to use the levels of questions as major reference in making questions. Thus, the results gotten will be valid to be a reference of the test takers achievement.

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