

# Investigating the Level of Bloom's Cognitive Verbs Included in Baccalaureate English Language Exams in Iraq

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## Abstract

*The present study aims to investigate the revised Bloom's cognitive level (verbs) that included in the Baccalaureate English Language exams. The sample of the study consisted from the Baccalaureate English Language exams' forms for the years 2016,2017,2018, and 2019 in the first and second attempts. To this end, the following null hypothesis has set "there is no statistical differences in the percentage of using Bloom's cognitive taxonomy in the Baccalaureate exams that can be attributed to the cognitive levels". To achieve the aim and to prove the hypothesis of the study, the researcher built a scale and elicited its reliability and validity. The results revealed that the Baccalaureate exams measure students' cognitive levels in "Remember", "Understand" and "Create" and have neglected students' cognitive levels in "Apply", "Analyze", and "Evaluate". In fact, the neglected cognitive levels are included in the "English for Iraq 6<sup>th</sup> preparatory 'Teacher Book' Guide". Also, the Speaking and listening skills are neglected too. According to Bloom's cognitive taxonomy, the exams have measured the second level of cognitive with ratio 60% , the first level was 20%, and the sixth level was 20% only. Whereas, the third, fourth, and fifth levels were 0%.*

## Statement of the Problem

The researcher notices that the first year college students, who enrolled at the Department of English, face difficulty when they answer exam's questions that measure high knowledge level such as "Apply", "Analyze", and "Evaluate" which measure students' cognitive levels. The students are familiar to deal with the questions that demand from them to define, choose, answer, match, recall. Thus, it is worth to investigate the level of active verbs based on revised Bloom's Taxonomy that included in the Baccalaureate English language Exams for the past five years (Baccalaureate exam is considered a standard exam that measures students' achievements), to reveal the factors that stand behind the students' current knowledge levels.

## Hypothesis of The Study

The null hypothesis has been set "there is no statistical differences in the percentage of using Bloom's cognitive taxonomy in the Baccalaureate exams that can be attributed to the cognitive level".

### Significant of the Problem

The results of the study will provide the educational specialists with the level of quantity of the baccalaureate English Language exams.

The study hopes to help in the following fields:

- 1- The Ministry of Education: it provides information concerning the level of knowledge that the baccalaureate exams do measure.
- 2- The Iraqi Education and Arts colleges: To understand first year English Language students' background knowledge levels in English language.

### Aims of the Study

The study aims to shed the light on the bloom's 'active verbs' (knowledge, comprehension, application, analysis, synthesis, and evaluation) that used in the format of baccalaureate English language exams. The activities and the exercises in the student's book and the activity book include bloom's 'active verbs' that means the English Text book is built on developing students' cognitive level, this it is important to see if there is a gap between the educational goals and the outcome assessment.

### Limits of the Study

- 1- The material is Baccalaureate English language exams.
- 2- Sample: The Sample is the 6<sup>th</sup> preparatory English language exam (Scientific and literary branches).
- 3- Time: The time is the past 5 years models' exams (2019, 2018, 2017, 2016, and 2015).

### Definition of Terms

**Bloom's action verbs:** They are the verbs that used to form questions for each level such as :

*knowledge Level:* define, match.

*Understand level:* Complete, describe, identify.

*Apply Level:* Solve, Choose, Use.

*Analyze Level:* Compare, explain, Point-out.

*Evaluate Level:* Order, Compare, Summarize.

*Create Level:* Compose, Write, develop (Bumen, 2007)

**Baccalaureate examination:** It is a summative exam to qualify successful pupils for higher education in Iraq. The exam is Labeled for the 6<sup>th</sup> preparatory summative test (Al-Khayyat, 2018)

**English language exam:** It is the exam that sets to measure students' language knowledge in English language after completing a specific course or year.

### Theoretical Framework

#### Bloom's Taxonomy

Bloom's taxonomy of educational objectives is one of the most used method to identify the level of expertise that needs to achieve students' outcomes. Bloom (1994) sets

three taxonomies. Each taxonomy measure a specific object and outcome. The taxonomies are classified into "knowledge-based" goals, "skills-based" goals, and "affective-based" goals. Bloom's taxonomies are ordered from simple to complex and from concrete to abstract (Krathwohl, 2002:1)

The cognitive domain has a great effect on teachers' thoughts and practices. The properties of the taxonomy are concerned both the educational and psychological issues. The educational issues facilitate communication, while the psychological issues facilitate psychological theories (Seddon, 1978:303).

In 1948 the convention of the APA inspires Bloom to head a group of educators who aim to classify educational goal and objectives. They want to promote a method of categorization for "thinking behaviors" in learning process. This aims becomes a taxonomy of 3 domains: the cognitive, effective, and psychomotor domains. The cognitive domain consists of 4 mental skills. It consists of 6 levels: knowledge, comprehension, application, analysis, synthesis, and evaluation. The "affective" domain consist of receiving, responding, valuing organization, and characterization. Whereas, the Psychomotor domain which covers physical action and requires practice. It consists of perception, set, guided response, mechanism, complex overt response, adaptation, and origination.

### Updating Bloom's Taxonomy

Lorin Anderson, in 1990, held an assembly to presents his updating of the Bloom's taxonomy which reflects features of the 21<sup>st</sup> century pedagogical areas (Anderson, and krathwohl, 2001: xxviii).

The revision contains significant change. The change happens in three categories: in 'terminology', in 'Structure', and in 'emphasis'. The obvious change is that the categories were changed from "noun" to "verb" forms as shown in table 1 bellow:

**Table 1:** A comparison between old version and new version ordered from easy to complex for the cognitive domain:

<u>Old version 1956</u>	<u>New version 2001</u>
Knowledge	Remembering
Comprehension	Understanding
Application	Applying
Analysis	Analyzing
Synthesis	Evaluating
Evaluation	Creating

Meta-cognition was also included in the new version 2001. It consist of factual knowledge, conceptual knowledge, and metacognitive knowledge (Wilson,2010).

Bumen (2007) makes a comparison between the original taxonomy (OT) and the revised taxonomy (RT). The article describes a pre-service teachers in order to compare the influence of the original taxonomy (OT) and the revised taxonomy (RT) on lesson planning skills. The findings prove other studies that have indicated a number of benefits of the revised system (RT) over the earlier one.

Hess et, al., (2009) define cognitive rigor (CR) and introduce the CR matrix for analyzing instruction and enhancing teacher lesson planning. "Two large-scale collections of student work samples analyzed using the CR matrix are presented, illustrating the preponderance of curricular items aligned to each cell in the matrix. Educators should use the cognitive rigor matrix to align the content in their curricular materials to the instructional techniques used in classroom delivery".

The above information present an idea of the significance of using original Bloom's taxonomy and also the revised on in the educational process. The present study investigate the extent of using Revised Taxonomy in the format of the Baccalaureate English language exams.

### **Sample of the Study**

The sample of the study is the Baccalaureate English language exams for the academic years 2015, 2016, 2017 , 2018 and 2019for the first and second attempts.

### **Instrument of the Study**

The researcher has designed a scale consists of a percentage table that measures the inclusion of Bloom's Taxonomy levels in the Baccalaureate English language exams according to the year and the exam's attempt. The scale consists of two major dimensions: The Bloom's cognitive action verbs (the new version 2001) and the type of the questions of each year (See Table 2).

### **Scale Face Validity**

The scale was given to the English Language curriculum designers and reviewers, EFL school teachers, EFL curriculum and instruction university instructors. The jury made some modifications and gave some recommendations.

### **Reliability of the Analysis**

- 1- The researcher analyzed the exams questions according to the scale.
- 2- The researcher repeated the analysis after five days from the first analysis. It was found that the consistency coefficient was 0.96 which indicate a high coincidence between the first and the second analysis.
- 3- Inter-rater Reliability: The researcher asked one of his colleague to re-analyze the exams' questions according the Bloom's cognitive taxonomy (new version). The inter-rater result showed that the consistency was 0.97.

### Procedures of the Study

The searcher conducted the following procedures:

- 1- Reviewed the theoretical literature.
- 2- Collected the sample.
- 3- Built the scale of the study.
- 4- Calculated the validity and reliability of the scale.
- 5- Analyzed the level of questions according to the scale.
- 6- Re-analyzed the level of the questions by inter-rater specialist.
- 7- Discussed the findings of the study.
- 8- Suggested some recommendations.

### Results of the Study

To prove the hypothesis of the study "there is no statistical differences in the percentage of using Bloom's cognitive taxonomy in the Baccalaureate exams that can be attributed to the cognitive level". A frequency and percentages have been used as shown in table 2:

**Table 2: Frequencies (F) and percentages (P) of the level of Bloom's cognitive active verbs (new version) used in Baccalaureate English language exams for the years 2015, 2016, 2017, 2018, and 2019 for the 1<sup>st</sup> and 2<sup>nd</sup> attempts**

<b>Bloom's Verbs</b>	<b>Year</b>	<b>*F</b>	<b>*P</b>
<b>Remember</b> Define, Identify, List, Name, Recall, Recognize Re-Peat, Re-write	2015	2	20%
	2016	2	20%
	2017	2	20%
	2018	2	60%
	2019	2	20%
<b>Understand</b> Choose, Answer, Describe, Match, Differentiate between, Express, Give in own word, Discuss, Complete do as required	2015	6	60%
	2016	6	60%
	2017	6	60%
	2018	6	60%
	2019	6	60%
<b>Apply</b> Practice, Use, Relate Interpret , Apply Interact, demonstrate, show	2015	0	0%
	2016	0	0%
	2017	0	0%
	2018	0	0%
	2019	0	0%
<b>Analyze</b> Analyze, Appraise, compare, contrast, Develop, Contrast, Develop, Diagram, Distinguish, Draw Evaluate, Infer, Question, Predict, recognize.	2015	0	0%
	2016	0	0%
	2017	0	0%
	2018	0	0%
	2019	0	0%

<b>Evaluate</b> Compare, Critique, Evaluate, Judge, Measure, Select, Predict, Test, Score, Assess, Summarize.	2015	0	0%
	2016	0	0%
	2017	0	0%
	2018	0	0%
	2019	0	0%

  

<b>Create</b> Arrange, Collect, Write, Design, Organize, Compose, Propose, Set-Up Modify, Assemble.	2015	2	20%
	2016	2	20%
	2017	2	20%
	2018	2	20%
	2019	2	20%

Table 2 shows that the Baccalaureate English language exams for the years 2015, 2016, 2017, 2018, and 2019 measure students' knowledge on the levels of "Remember", "Understand" and "Create", 20%, 60%, and 20% respectively. Whereas, the students' levels of "Apply", "Analyze", and "Evaluate" did not measure.

The Bloom's active verbs that used in the examination questions were as follows:

- 1- Remember level: The Re-write verb was used to measure students' basic level for the year 2015, 2016, 2017, 2018 and 2019 for the first and second attempts.
- 2- Understand level: the answer, match, choose, complete, and do as required verbs were used to measure students' understanding (comprehension) for the year 2015-2019 for the first and second attempts.
- 3- Create level: the 'write' verb was used to measure students' creative ability for the years 2015-2019 for the first and second attempts.
- 4- Apply, Analyze, and Evaluate levels: they are neglected in the format of Baccalaureate English exams. In fact, these objects levels are included in the teachers' book guide of the "English for Iraq 6<sup>th</sup> preparatory". Following are the objectives that being included in the "English for Iraq 6<sup>th</sup> preparatory teacher's book", and have been neglected in the examination questions:

#### **A- Listening Objectives:**

- 1- Evaluation level: students hope to do the following:
  - i- Comparing and revising predictions during and after listening.
  - ii- Summarizing the main points of a text.

#### **B- Speaking Objectives:**

- 1- Apply level:  
Students hope to do the following:
  - i- Interacting appropriately in social situations.
  - ii- Using strategies to maintain conversation.

- iii- Demonstrating awareness of other speakers and encouraging contributions from other speakers.
- iv- Showing interest when someone is speaking and asking follow- up questions when appropriate.

2- Analyze level:

Students hope to do the following:

- i- Using formal / informal language appropriate to the situation.

#### **C- Reading objectives:**

A- Analyzing level:

Students hope to do the following:

- i- Recognizing how reference sources are organized and how they can help readers.
- ii- Using a glossary to understand key words that are not clear from the context.

iii- Evaluation level:

Students hope to do the following:

- i- Using image to predict text.

#### **D- Writing objectives:**

1- Create level:

The examination questions measure students' ability in forming well paragraphs, but neglected students' ability to:

- 1- Arrange information for impact.
- 2- Organize content into paragraph.
- 3- Using punctuation to make meaning clear.

#### **Conclusion:**

The Baccalaureate English language exams measure students' knowledge in remembering information, understanding information, and semi-creating text (it is done based on instructions and the students have already done it previously). The exams neglected students' knowledge level in the following: applying information, analyzing information, and evaluating information, and even the creative level is not measured as a pure creative task, because the students have already practice the given composition title during the first and second semester of the academic year. The exams measure students' abilities in reading and writing skills only, whereas, the speaking and listening skills are neglected.

It is worth to mention that the neglected objectives and the skills are included in the 6<sup>th</sup> preparatory English textbook, and the purpose behind not including them in the Baccalaureate English language exams is not clear. The exams have neglected to measure the goals that been set to measure students 6<sup>th</sup> preparatory cognitive levels, and their aptitude to join the university level.

The specialists are needed to be a weave of this gap in measuring students' cognitive level to prepare them for the level of higher study at university.

### Recommendations

In light of the outcomes of the study, the researcher recommended the following points:

- 1- To investigate the features of English language teachers' daily lesson plans and the inclusion of the Bloom's taxonomy in forming the objectives of the lesson.
- 2- To investigate the exercises in the English activity text-books, and find to what extent do they measure students' cognitive level.

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