

## The Degree of Questions' Inclusion in the Eighth 8<sup>th</sup> Grade English Student's Textbook and Workbook Based on Gallagher and Ascher's Taxonomy Levels

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### Abstract:

The current study aimed at identifying the degree of questions' inclusion in the eighth grade English student's textbook and workbook according to the levels of Gallagher and Ascher's taxonomy.

To achieve the purpose of this study, the researcher designed an analytical content card based on Gallagher and Ascher's Taxonomy to analyse the questions in the 8th grade textbook and workbook. The sample of the study consisted of all questions in these books, where 1132 questions were analysed. The results of the study showed that the levels of questions in students' textbook are arranged as follows: The first category is convergent thinking questions, which has the highest frequency of 337 and a percentage of 55.16%. It is followed by cognitive-memory level, which has a frequency of 221 and a percentage of 36.1%. The third level is the divergent thinking level, which has a frequency of 37 and a percentage of 6.06%. The fourth is an evaluative thinking question, which has a frequency of 16 and a percentage of 2.62%. In terms of English language skills, listening is ranked first with a percentage of 20.5%, and grammar is placed second with a percentage of 18.3%. Furthermore, the levels of questions' analysis for the student's workbook are organised as follows: The first category includes questions about convergent thinking, which have the highest frequency of 324 and a percentage of 62.18%. It is followed by the cognitive-memory level, which has a frequency of 147 and a percentage of 28.21%. The third level is the divergent thinking level, which has a frequency of 29 and a percentage of 5.56%. The fourth is an evaluative thinking question, which has a frequency of 21 and a percentage of 4.03%. According to English language skills, grammar is ranked first with a percentage of 35.5%, and reading is placed second with a percentage of 19.2%.

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**Key Words:** English Student's Textbook, Workbook, Gallagher And Ascher's Taxonomy, Questions' Analysis.

## درجة تضمين الأسئلة في كتابي (الطالب والأنشطة) للغة الإنكليزية للصف الثامن وفقاً لمستويات تصنيف غالغر واشنر

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### المخلص:

هدفت الدراسة الحالية إلى تحديد درجة تضمين الأسئلة في كتابي (الطالب والأنشطة) للغة الإنكليزية للصف الثامن، وفقاً لمستويات تصنيف غالغر واشنر. ولتحقيق غرض هذه الدراسة، استخدم الباحث بطاقة تحليل المحتوى في ضوء مستويات تصنيف غالغر وأشر. تألفت عينة الدراسة من جميع الأسئلة في كتابي الطالب والأنشطة، حيث تم تحليل 1132 سؤالاً.

أظهرت نتائج الدراسة أن مستويات الأسئلة في كتاب الطالب جاءت على النحو التالي: حصول المستوى التقاربي على المرتبة الأولى، وذلك بعدد تكرارات بلغ (337) تكراراً، ونسبة مئوية بلغت 55.16٪، يليه مستوى التفكير المعرفي، بعدد تكرارات بلغت 221 ونسبة مئوية 36.1٪. وفي المستوى الثالث التفكير التباعدي، بعدد تكرارات بلغت 37 ونسبة مئوية 6.06٪. وأخيراً مستوى التفكير التقويمي، بعدد تكرارات بلغت 16 تكراراً ونسبة مئوية 2.62٪. وبالنسبة لمهارات اللغة الإنجليزية، يحتل الاستماع المرتبة الأولى بنسبة 20.5٪، وتحتل القواعد المرتبة الثانية بنسبة 18.3٪.

وفيما يتعلق بكتاب الأنشطة، حصل المستوى التقاربي على المرتبة الأولى، وذلك بعدد تكرارات بلغ (324) تكراراً، ونسبة ونسبة مئوية بلغت 62.18٪. يليه مستوى التفكير المعرفي، بعدد تكرارات بلغت 147 ونسبة مئوية 28.21٪. وفي المستوى الثالث التفكير التباعدي، بعدد تكرارات بلغت 29 ونسبة مئوية 5.56٪. وأخيراً مستوى التفكير التقويمي، بعدد تكرارات بلغت 21 تكراراً ونسبة مئوية 4.03٪. وبالنسبة لمهارات اللغة الإنجليزية، تحتل القواعد المرتبة الأولى بنسبة 35.5٪، وتحتل القراءة المرتبة الثانية بنسبة 19.2٪.

**الكلمات المفتاحية:** كتاب اللغة الإنجليزية للطالب، كتاب الأنشطة، تصنيف غالغر واشنر، تحليل الأسئلة.

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## Introduction:

The questions in the textbook are considered one of the main components of most EFL classrooms, because there is a vital relationship between the questions and the process of students' thinking. They are commonly used to transmit knowledge, activities, and skills into real-life usage of language. Through questions, the teacher can construct various classroom activities and design language assessments for the activities conducted. In other words, they are essential elements for teachers to arouse students' thinking, receive appropriate feedback, and stimulate their cognitive processes. In addition, questioning encourages students to explore their ideas, beliefs, conceptions, perspectives, and values. According to Claxton (2002, p. 24), questions require a learning power of mind or habits of mind. These habits of mind help to increase the efficiency of thinking. Of course, to develop such a habit of thinking, we must first know what kind of thoughts and ideas the learners already have in their minds. By asking questions, ideas can be captured and directed in the desired direction. Filippone (2003) believes that questioning is a way to improve and develop students' critical thinking skills." (p. 8). Therefore, questioning, which is connected to the mind and how thoughts work, is the most commonly used method in the classroom.

Classroom interaction plays a significant role in the teaching-learning process. Kalantari (2017) states that "one of the influential strategies in creating classroom interaction is questioning technique." (p.426). Consequently, it is the strategy that helps students think and convey their knowledge and information. So, active teachers should modify these questions to stimulate not only students' lower-level thinking but also their higher-level thinking. Edward and Bowman (1996) pointed out the significance of questions as an instructional approach that encourages students to engage in higher-level or higher-order thinking. However, teachers can develop students' critical thinking skills by using questioning as an effective teaching strategy in the classroom. According to Ur (1996), a question in the context of teaching can be defined as a teacher's utterance that has the objective of eliciting an oral response from the learner. According to Ur (1996), a question in the context of teaching can be defined as a teacher's utterance that has the objective of eliciting an oral response from the learner. Quirk et al. (1985) define a question as a semantic class used to seek information on a specific point" (p. 804). Questioning allows teachers to stimulate students' thinking as well as increase their competence in thought-based discussions. According to Gini-Newman and Case (2015), the challenge for teachers is to create thinking classrooms. They argue that a "thinking classroom" ought to orient every activity in school" (p.21). For this, teachers need to ask questions that arouse students' thoughts and motivate them to be active in classroom interaction.

On the other hand, questioning is one of the critical problems encountered by teachers and learners of a foreign language. Teachers must identify students' abilities and knowledge before and after the teaching process to create interaction within the classroom. For the teacher, the main problem encountered is eliciting accurate students' responses, as if the teacher receives correct feedback, he will achieve the desired goal of asking questions. Therefore, questioning is used to help teachers "analyse the students' understanding of the material during the teaching-learning process." (Critelli & Tritapoe 2010, p. 119). Furthermore, teachers must be aware of students' level of understanding and the types of questions they ask. Therefore, there must be an interaction between teachers and students.

Based on the above-mentioned ideas, the researcher felt it was imperative to shed light on analysing the questions in the eighth grade English textbook and workbook (Emar) in Syria. The questions were examined and classified by Gallagher and Ascher's Taxonomy, revealing to what degree textbook questions may encourage lower- and higher-order thinking skills.

## 2- The problem of the study:

Analysing the questions in English textbooks is considered the primary step towards attractive and active classroom interaction. It helps teachers develop their teaching strategies, and it also important develops students' levels of thinking. Organizing questions into different levels can prove to be an effective strategy in exam preparation. Presently, the Ministry of Education is implementing a new approach to the final exam

structure for the secondary certificate (baccalaureate). Therefore, it is crucial for researchers to recognize the significance of analyzing questions to mitigate any potential issues during the exam. Exam preparation necessitates exam creators to have a deep understanding of the nature and complexity of questions.

Since its introduction in Syria in 2021 across all educational levels, the English series (Emar) has been open to modifications based on feedback gathered from the field. The researcher observed that The researcher observed that analyzing the questions in eighth-grade textbooks and workbooks, utilizing Gallagher and Ascher's taxonomy (cognitive - memory, convergent thinking, divergent thinking, and evaluative thinking), aids in the development of students' higher-order thinking skills. Relying on his teaching experience in English across various levels, the researcher recognized the importance of examining the new textbooks, especially concerning the levels of questions. This analysis can assist textbook designers in avoiding shortcomings and incorporating necessary elements. Additionally, it can aid examiners in confirming the suitability of question levels for assessments. Based on the results of previous studies (Pandey (2022), Nevtria, Mulyadi and Puspita (2020), Ramadhan & Zainil (2019), Bani study (2014), Igbaria (2013), Al-Btoush (2012) and Nurisma (2010), and through conducting a pilot study on a sample of 12 teachers to determine their knowledge of the level of the textbook's questions and strategies of asking questions and to demonstrate the strategies they use when asking the questions in their classes. The results of the pilot study showed that 80% of teachers did not have an educational background about the level and taxonomy of the questions. This motivated the researcher to investigate the level of questions in English student's textbook and workbook for 8th grade.

It is well known, that identifying the level of the teachers' questions contributes to developing students' higher level of thinking and the teachers' teaching strategies. The idea of this study can be identified in the following question:

What are the levels of questions' inclusion in English student's textbook and workbook for eighth grade, according to Gallagher and Ashner levels of thinking?.

### 3- The Significance of the Study:

**The significance of the study emerges from the following points:**

- This study can be considered the first to analyse the questions of the New English series (Emar) for eighth grade according to Gallagher and Ascher's Taxonomy of Thinking (Cognitive Memory, Convergent Thinking, Divergent Thinking, and Evaluative Thinking).
- Determining the level of the questions used by teachers may help decision-makers develop the strategies needed to improve the methods of teaching English, which may positively affect students' learning and thinking.
- This study can provide the teachers with diverse information about the strategies of questioning that could enhance their methods of teaching and their students' classroom interaction and thinking.
- This study can constitute a tool for evaluating students' thinking, which could help teachers take into consideration the levels of the questions.
- The results and suggestions of this study are expected to help the exam makers at the Ministry of Education in setting the mechanisms to develop the questions in the new system of examination for the general secondary certificate (baccalaureate) in Syria for the academic year 2023-2024.
- It will also serve as an indication for the authors of English textbooks to take into consideration the distribution of the questions through their levels of thinking.
- It is hoped that through its results, the designers and developers of the new English language text books will review the educational content in light of Gallagher and Ascher's Taxonomy of Thinking (Cognitive Memory, Convergent Thinking, Divergent Thinking, and Evaluative Thinking).
- This study may provide the teachers with different ideas and information about the importance of students' thinking, which could improve their methods of teaching.

- This study can constitute a tool for analysing the level of questions, which could help researchers conduct other studies relevant to this study.

#### 4- The Aims of the Study

##### This study aims to:

analyse the level of questions included in the eighth grade English student's textbook and workbook based on Gallagher and Ashner's taxonomy of thinking (a cognitive memory, convergent thinking, divergent thinking, and evaluative thinking). From this main aim, the following sub-aims can be derived:

4.1 Determining the level of questions' inclusion in English student's textbook for the eighth grade according to Gallagher and Ashner levels of thinking.

4.2 Determining the level of questions' inclusion in English workbook for the eighth grade according to Gallagher and Ashner levels of thinking.

#### 5- The Questions of the Study:

The study tries to answer the following main question:

What are the levels of questions' inclusion in English student's textbook and workbook for the eighth grade according to Gallagher and Ashner levels of thinking?. From this main question, the following sub-questions can be derived:

5.1 What are the levels of questions' inclusion in English student's textbook for the eighth grade according to Gallagher and Ashner levels of thinking?

5.2 What are the levels of questions' inclusion in English student's workbook for the eighth grade according to Gallagher and Ashner levels of thinking?

#### 6- The variables of the study:

6.1 The independent variables: (The questions and the activities in English language textbooks and workbooks for 8th grade).

6.2 Dependent variable: the level of questions' inclusion of in English student's textbook and workbook for the eighth grade according to Gallagher and Ashner's levels of thinking.

#### 7- Limitations of the Study:

##### The study was conducted within the following limits:

7.1 Scientific Limitations: the level of the questions included in the eighth grade of English students' book and work book according to Gallagher and Ashner's levels of thinking.

7.2 Time Limitations: The study was conducted in the first semester of academic year 2022-2023.

7.3 The study is limited to the version (2021) of Emar textbook and workbook for 8th grade designed by the Ministry of Education in Syria.

7.4 All the questions in English student's textbook and workbook for 8th grade of Emar series were taken into consideration in the process of analysis.

#### 8- Terminology and Procedural Definitions:

8.1 Emar: is a national series for all levels of students. It was published in Syria in 2022 by the Ministry of Education.

8.2 Questions: investigative statements that appear in the units of English textbooks and call on the student for some level of cognitive functioning to provide answers (Longman, 1984).

8.3 Gallagher and Ascher's(1963) hierarchical taxonomy consisted of four different categories describing question levels:

8.3.1 Cognitive-memory question requires only simple processes like recognition, rote memory, or selective recall to formulate an answer.

8.3.2 Convergent thinking requires analyzing and integrating data to formulate an answer. There is only one correct answer for questions at this level.

8.3.3 Divergent thinking requires a response using independently generated data or a new perspective on a given topic. There is more than one correct answer to such questions.

8.3.4 Evaluative thinking, the highest question level in this taxonomy, deals with matters of judgment, value, and choice.

8.4 Textbook: Graves (2000) asserts that "the textbook is used as a standard source of information for formal study of a subject and an instrument for teaching and learning (p.175) .

It is defined procedurally as a set of educational units that have been designed to suit the levels of 8th primary grade students.

8.5 English Textbook for Eighth Grade published by Ministry of Education

is a specific book that contains manual of instruction of compulsory

English language subject which is produced to facilitate the implantation of

National Curriculum 2013

8.6 English Textbooks: Books written to teach English language in the public and private schools in Syria during the academic year 2011-2012. In this study they were two textbooks in total: Student's textbook and workbook

## **9- Literature Review:**

### **9.1 Pandey study (2022)**

Teachers' experiences on the use of questioning strategy in Nepalese ELT classrooms

The study aimed at exploring teachers' beliefs on the use of questioning strategy in ELT classrooms. The narrative inquiry approach was adopted as a research method. The sample of the study was three secondary English teachers, purposively selected, from three secondary schools of Kathmandu, Nepal. This study employed interview as the method for data collection. The result of the study showed that though the teachers used both divergent and convergent questions in the classrooms; they gave priority to divergent ones. The participants perceived divergent questions as these questions permit exploration of multiple ideas.

### **9.2 Nevtria, Mulyadi and Puspita study (2020)**

An Analysis of Professional Teachers' Questions in EFL Classroom

The study aimed at analyzing the types of teachers' questions in EFL tenth grade classroom. The researcher used the descriptive quantitative approach. The data was collected through observation and video recording. The teachers' questions were analyzed according to revised Blooms' Taxonomy. The results of the study showed that both teachers of English only used three level of questions according Bloom's (remembering, understanding, and analyzing questions).

### **9.3 Ramadhan & Zainil study (2019)**

An Analysis of Teachers' Questions in English Classroom Activity Based on HOTS in SMAN Kota Padang

This study aimed at analyzing the types and level of questions asked by teachers in EFL classroom activity in SMAN Kota Padang. The study used the descriptive qualitative approach. The sample was 12 teachers from 4 schools selected by using random sampling technique. The data was collected through classroom observation-video recordings and stimulated recall interview (SRI) recordings. The results showed that the teachers asked 575 questions; (82.85 %) of the total questions were at remembering level, which is the lowest level of thinking in cognitive domain.

### **9.4 Abdel Gawad(2018).**

The degree of questions'inclusion of activities and drills in the New Arabic language Textbooks for 10th and 11th grades in Palestine according to Gallager and Ashner's Textonomy

The study aimed at identifying the degree of questions'inclusion of activities and drills in the new Arabic language textbooks for 10th and 11th grades in Palestine according to Gallager and Ashner's Textonomy.

The study used the descriptive analytical approach. The instrument of the study was an analysis card according to Gallager and Asherner's classification of the level of questions. The researcher analyzed (2235) items. The results showed that the level of convergent questions in the textbook of the tenth grade (parts I and II) ranked first by (65.59%), followed by the divergent questions that got (20.12%), then knowledge questions (9.48%) and finally the evaluative level questions got (4.82%). In the textbook of the eleventh grade (parts II and I), the highest level was obtained by convergent questions with a percentage of 66.34%, followed by the divergent questions, which got (23.59%). The knowledge level questions got (8.55%) and evaluative questions got (1.51%). In the eleventh Arabic language book (literary mainstream), the percentages were respectively as follows: convergent questions got (41.69%), divergent questions got (33.55%), knowledge questions got (20.20%) and evaluative level questions got (4.56%)

### 9.1 Bani study (2014)

An Analysis of the Tenth Grade English Language Textbooks Questions in Jordan Based on the Revised Edition of Bloom's Taxonomy

This study aimed at identifying and analyzing the types and levels of questions available in the tenth grade English language textbooks in Jourdan according to the new version of Bloom's Taxonomy of the cognitive domain.

The sample consisted of the Tenth grade English language textbooks, where the researcher analyzed (655) 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 showed that the majority of the questions were centered around the first two levels; specially remembering and understanding (55.11%) , (16.18%), for application and other levels, the percentage was 28.71%. In addition, the results revealed that there was a statistcall difference in favor of the lower level questions, as the percentage was 51.9%.

### 9.6 Igbaria study (2013 )

A Content Analysis of the WH-Questions in the EFL Textbook of Horizons

This study aimed at analyzing the units in the textbook Horizons for 9th-grade students studying English in mixed ability classes. In addition, it aimed at examining the variety in the cognitive level represented by the WH-questions in the textbook according to Bloom's taxonomy. In addition, it also aimed to examine the extent to which the textbook WH questions emphasize high-level thinking and whether the textbook helped students develop their cognitive skills. Content analysis was conducted for the six study units in the textbook Horizons. The questions were collected, listed, and analyzed according to Bloom's Taxonomy: low-order thinking skills: knowledge, comprehension, and application, and high-order thinking skills: analysis, synthesis, and evaluation. The results showed that (244) questions emphasized levels of cognition representing lower-order thinking skills, while only 137 questions emphasized the three higher-order thinking skills. The questions in the Horizons textbook place a great deal of emphasis on comprehension, which is one of the lower-order thinking skills.

### 9.7 Al-Btoush (2012).

An analysis of the Questions in Jordanian Secondary Stage English Language Textbooks

The study aimed at identifying and analyzing the levels and types of questions available in the secondary stage textbooks of English language used in Jordan according to Bloom's Taxonomy (cognitive, affective and psychomotor). The results of the study revealed that most of the questions were within the first two levels of comprehension and knowledge (66%), while other questions were within the other cognitive levels (29%). Also, there was a low emphasis on affective domain (5%) and the absence of psychomotor domain.

### 9.8 Nurisma (2010) .

An Analysis of Reading Questions in English e-book entitled “Developing English Competencies for Grade XI”.

The study aimed at analyzing the types of reading questions and the frequency of each type in English e-book based on Bloom's Taxonomy. The sample of the study consisted of (400) questions contained in "Developing English Competencies for senior high school grade XI". The data was analysed based on Bloom's Taxonomy. The results of study revealed that the reading questions in the textbook covered five levels of reading comprehension based on Bloom's Taxonomy. The knowledge level of questions dominated the reading questions, followed by application, analysis, and evaluation which were presented in a few questions.

#### 10- Comment on Previous Studies:

From the previous literature review, the researcher noticed that his study is different from most previous studies in the sense that it focused on the analysis of textbook and workbook questions according to Gallagher and Ascher's Taxonomy. All the previous studies (Pandey (2022), Nevtria, Mulyadi and Puspita (2020), Ramadhan & Zainil (2019), Bani study (2014), Igbaria (2013), Al-Btoush (2012) and Nurisma (2010) analysed the questions according to Blooms' Textonomy of thinking or to the revised Blooms' Taxonomy. But it is similar to Abdel Gawad(2018) study in the procedures, and it is different in the grade and the textbook analysed; wherse Abdel Gawad analysed the level of questions'inclusion in the Arabic language Textbooks for 10th and 11th grades.

The presentation of the aforementioned studies highlighted the diversity of studies that dealt with the procedures of analysing the levels of the questions, and hence the researcher was able to draw the following points:

- The results of most of the previous studies showed the importance of analysing the levels of the questions, since there was almost complete agreement in their results,

- All studies agreed that the descriptive analytical approach is the appropriate one for this type of studies. However, the present study differs from the previous ones in the main objective in terms of analyzing the level of questions in eighth grade student's textbook and workbook according to Gallagher and Ascher's Taxonomy.

#### 11- The Research Theoretical Background:

##### Importance of questions:

Questions are the most powerful teaching tools for evaluating and assessing student's knowledge, understanding, and critical thinking. Thus, "the importance of questioning as a teaching strategy, the skill with which teachers use questions has received a considerable amount of attention in teacher education" (Richards and Lockhard (2004, p.187). However, understanding how questions are categorized can help teachers develop their questioning strategies that not only stimulate students to recall important facts, concepts, and procedural knowledge, but also require students to analyze, evaluate, and create. Therefore, Questioning provides teachers with meaningful feedback about the process of learning, and engage students into active classroom interaction and participation. Butani (2015, p. 40) asserts that "questioning is a challenging teaching tool and even for experienced educators."

On the other hand, Guest (1985) states that "Questioning strategy is one of the important tools to extending students' learning which can help teachers develop their own strategies to enhance the students work and thinking" (p. 2). Students can express their thoughts openly by answering the teacher's questions. Gast (2013) argues that "teachers have asked questions to check what has been learnt and understood, to help them gauge previous learning, increase or decrease the challenge, and assess whether students are ready to move forward and learn new information." (p.1)

The main important points of teachers' questions are summarised by Ur (2006) as follows:

- a. To provide a model for language or thinking.
- b. To find out something from the learners (facts, ideas, opinions)
- c. To check or test understanding, knowledge or skill.
- d. To get lerners to be active in their learning.

- e. To direct attention to the topic being learned
- g. To provide weaker learners with an opportunity to participate.
- h. To stimulate thinking (logical, reflective or imaginative).
- i. To encourage self-expression.

k. To communicate to learners that the teacher is genuinely interested in what they think." (p. 229).

On an other hand, Brown (2001) asserts that interactive questions can fullfill different functions: "

1- Teacher questions give students opportunities to produce language comfortably without having to risk initiating language themselves.

2- Teacher question can serve to initiate a chain reaction of student interaction among themselves.

3- Teacher questions give an immediate feedback about student comprehension, because after posing a question, a teacher can use the student response to diagnose linguistic or content difficulties.

4- Teacher questions provide students with opportunities to find out what they think by hearing what they say". (p. 169 -170). Interaction and communication are the main purposes to creat effective classroom,

"When communication is taking place, the people involved have a choice of what to say and how to say it. The speaker has a choice of what ideas he wants to express " (Sunduq, p.523). To sum up, questioning always creates this classroom communication and interaction and it is a very important classromm strategy.

### **Levels of the questions:**

Questions can be classified in many ways, each of which is important. However, in the mid-20th century, questioning techniques began to be used in classroom discussions with Bloom's Taxonomy of Educational Objectives: The Classification of Educational Objectives. Bloom's taxonomy emphasizes different levels of cognition and can help students assess where they are in the process of comprehensive understanding. Here Bloom divides cognitive domains into six categories, which form the basis of most modern questioning techniques. However, this taxonomy expresses different types of qualitative thinking which are classified into six levels from lower order thinking (basic) to higher order (or a more complex form of thinking). The six levels of thinking were as follows: (Knowledge, Comprehension, Application ,Applying, analysis, Synthesis and Evaluation".

On the other hand, Gallagher and Aschner (1963) developed a classification system that incorporated the concept of productive thinking to describe the cognitive levels observed in classroom interaction. The cognitive categories in their model are (a) routine thinking, (b) cognitive memory, (c) convergent thinking, (d) divergent thinking, and (e) evaluative thinking. In 2001, Anderson published a revised version of Bloom's taxonomy. The classes of the revised version are: Remembering, Understanding, Applying, Analyzing, Evaluating. As Sanders (1966) claimed that "practical questions should consider many possibilities of thought and are built around the different kinds of thinking. Good questions are not only for evaluating what has been studied in a narrow sense, but also for evaluative thinking and learning." (p.21). Sanders (1966) mentions 7 levels of thinking which are: remembering, translating, interpreting, applying, analyzing, evaluating and synthesizing. Teachers' questions have been categorized Barnes (1969) into four distinct groups. The first category includes questions relating to factual information, while the second one comprises inference-based questions. The third consists of open-ended questions that do not necessitate any inference, and the final category encompasses questions aimed at facilitating communication and guiding learner's behavior. It is worth noting that Richards & Lockhart have also proposed a widely recognized classification system for teachers' questions. They classified the questions in terms of their purposes into three categories; procedural, convergent, and divergent questions. Elsner and Haines (2013) classified questions into five types: "Convergent, Divergent, Focal, Brainstorm and Funnel" (p. 2). All these classifications are important for teachers and learners. Furthermore, teachers need to be aware of these classifications as they are fundamental strategies in the teaching process.

To sum up, all these different classifications emphasize the importance of student's interaction, learning, and communication. Regardless of question type, it is critical that teachers use questioning strategies that encourage students' higher-order thinking. This is because all the objectives presented in these classifications require teachers to use these levels of thinking to enhance students' critical thinking skills, facilitate classroom discussions, help students clarify their thinking, and encourage them to explore new ideas and apply previously acquired knowledge.

## 12- Research Procedures

### 12.1 Research Methodology:

The descriptive analytical approach is used "study things in their natural settings, attempting to make sense of or interpret phenomena in terms of the meanings people bring to them." (Al-Shehabi & Shudooh, 2018, pp.11-12). In this study, it was used to identify the level of questions in English 8th grade textbook and workbook via Gallagher and Ascher's Taxonomy.

#### 2.The Research Population and its Sample:

The population of this study consisted of English student's textbook and workbook of (Emar) series for 8<sup>th</sup> grade for the academic year (2021-2022). It consisted of (2) books; (textbook and workbook) for 8<sup>th</sup> grade. Every book consists of (6) educational modules, and every module has two units. The sample of the study consisted of all questions in these books. So, the questions in these books were analyzed according to Gallagher and Ascher's Taxonomy. Table (1) demonstrates the distribution of the research sample, according to their modules, units and the number of questions.

**Table (1): The population and the sample of English student's textbook and workbook for 8<sup>th</sup> grade.**

| Class                        | Book     | No. Modules | No. Units | Number of questions |
|------------------------------|----------|-------------|-----------|---------------------|
| 8 <sup>th</sup> Grade        | Textbook | 6           | 12        | 611                 |
|                              | Workbook | 6           | 12        | 509                 |
| Sum of 8 <sup>th</sup> Grade | 2        | 12          | 24        | 148                 |

### 12.2 Research Tool:

The research tool was analytical content card for analysing the level of the questions for 8<sup>th</sup> grade student's textbook and workbook according to Gallagher and Ascher's Taxonomy.

#### 12.3 Research Tool Design:

The researcher designed the analytical content card by reviewing the theoretical literature and previous studies as (Pandey(2022), Nevtria, Mulyadi and Puspita (2020), Abdl Gwad (2018), Ramadhan & Zainil (2019), Bani (2014), Igbaria (2013), Al-Btoush (2012) and Nurisma (2010).).

Gallagher and Ascher (1963) has offered a taxonomy that can be used for questioning. Four categories can be differentiated:

- The first level, the cognitive memory or ( Cognitive remembering) questions which require only simple processes like recognition, rote memory, or selective recall to formulate an answer. This "simple memory or recognition is required to formulate an answer. ( Pagliaro, 2011: 60)
- The second level, the *Convergent thinking* which requires analyzing and integrating data to formulate an answer. There is only one correct answer for questions at this level;
- The third level, *Divergent thinking* requires a response using independently generated data or a new perspective on a given topic. There is more than one correct answer for such questions. In dependently generated information or a new perspective is needed to answer the question. Many different responses to the question are possible. (Ibid, 2011: 60),
- The fourth level, Evaluative *thinking* is the highest level in this taxonomy that deals with matters of judgment, value, and choice. For instance, "What should be done to improve our health care system? Explain

your answer." ). The student here must exercise judgment, value and choice to respond to the question. (Ibid, 2011: 60). The following table demonstrates the analytical content card.

**Table (2): Analytical Content Card of the Study**

| Modules                    | Units                 | Skills     | Gallagher and Ascher's Taxonomy |                            |                           |                            | Number of the Questions |
|----------------------------|-----------------------|------------|---------------------------------|----------------------------|---------------------------|----------------------------|-------------------------|
|                            |                       |            | <i>cognitive -memory</i>        | <i>Convergent thinking</i> | <i>Divergent thinking</i> | <i>Evaluative thinking</i> |                         |
| Module 1<br><br>Schooldays | Unit 1<br>Future Plan | Speaking   |                                 |                            |                           |                            |                         |
|                            |                       | Reading    |                                 |                            |                           |                            |                         |
|                            |                       | Vocabulary |                                 |                            |                           |                            |                         |
|                            |                       | Grammar    |                                 |                            |                           |                            |                         |
|                            |                       | Listening  |                                 |                            |                           |                            |                         |
|                            |                       | Writing    |                                 |                            |                           |                            |                         |
|                            | Unit 2<br>A Challenge | speaking   |                                 |                            |                           |                            |                         |
|                            |                       | Reading    |                                 |                            |                           |                            |                         |
|                            |                       | Vocabulary |                                 |                            |                           |                            |                         |
|                            |                       | Grammar    |                                 |                            |                           |                            |                         |
|                            |                       | Listening  |                                 |                            |                           |                            |                         |
|                            |                       | Writing    |                                 |                            |                           |                            |                         |
| Focus on                   |                       | Speaking   |                                 |                            |                           |                            |                         |
| Sum                        |                       |            |                                 |                            |                           |                            |                         |

#### 12.4 The content validity

Content validity is important because it provides confidence that the instrument measures what it is intended to measure. In order to test the validity of the analytical instrument, it was handed over to several experts from the Faculty of Education and the Higher Language Institute. These referees were given the steps to analyze the levels of questions in student textbooks and workbooks according to the Gallagher and Asher taxonomy. They also provided with copies of the topics analyzed. They were then asked to express their opinions on the validity of the analysis based on the steps explained. As a result, they claimed that the analysis results were consistent with the above- mentioned steps, indicating that the instrument was suitable to achieve the purpose of the study and answer its questions.

#### 12.5 Reliability of the analysis process:

The researcher calculated the reliability coefficient of student's textbook according to Holstein Equation between the degree of the researcher's first analysis, and his analyses after two weeks and this called (consistency over time). The constant factors between the two analyzes were calculated using the Holsti equation (Holsti, 1969):

$$CR = 2M / (N1 + N2)$$

CR: reliability coefficient

M: The number of units of analysis agreement.

N1: The number of analytical units analyzed by the researcher's first analysis

N2: The number of analytical units analyzed by the researcher's analyses after two weeks, and the following table shows the analysis of the researcher at the two times of analysis.

Table (3): Reliability coefficient values of the analysis process of student's textbook

| Educational Units | Frequinces     |                 | Frequencies agreed on in both analysis | Percentage |
|-------------------|----------------|-----------------|----------------------------------------|------------|
|                   | First analysis | Second analysis |                                        |            |
| Unit 1            | 80             | 84              | 80                                     | 0.952381   |
| Unit 2            | 101            | 99              | 99                                     | 0.980198   |
| Unit 3            | 112            | 117             | 112                                    | 0.957265   |
| Unit 4            | 120            | 122             | 120                                    | 0.983607   |
| Unit 5            | 88             | 80              | 80                                     | 0.909091   |
| Unit 6            | 106            | 100             | 100                                    | 0.943396   |
| Total             | 611            | 598             | 598                                    | 0.967638   |

Table (3) shows that the total agreement frequinces for all units of student's textbook was (0.96), and this indicates that the reliability between the two analysis was acceptable and reasonable.

The same steps were done to calculate the Reliability coefficient values of the analysis process of student's workbook

Table (4): Reliability coefficient values of the analysis process of student's workbook

| Educational Units  | Frequinces     |                 | Frequencies agreed on in both analysis | Percentage |
|--------------------|----------------|-----------------|----------------------------------------|------------|
|                    | First analysis | Second analysis |                                        |            |
| Unit 1             | 67             | 70              | 67                                     | 0.957143   |
| Unit 2             | 91             | 100             | 91                                     | 0.91       |
| Unit 3             | 62             | 58              | 58                                     | 0.935484   |
| Progressive Test 1 | 36             | 30              | 30                                     | 0.833333   |
| Unit 4             | 69             | 74              | 69                                     | 0.932432   |
| Unit 5             | 68             | 77              | 68                                     | 0.883117   |
| Unit 6             | 69             | 67              | 67                                     | 0.971014   |
| Progressive Test 2 | 47             | 45              | 45                                     | 0.957447   |
| Total              | 509            | 521             | 509                                    | 0.925234   |

Table (4) shows that the total agreement frequinces for all units of student's workbook was (0.92), and this indicates that the reliability between the two analysis was acceptable and reasonable.

### 13- Analysis and Discussion of Results

#### First: Answering the Research Questions:

1- What are the levels of questions' inclusion in English student's textbook for eighth grade according to Gallagher and Ashner levels of thinking?

To answer this question, the researcher analysed questions of all units in the student's textbook according to Gallagher and Ashner's levels of thinking. This study used question's analysis type as the unit of analysis category. Frequencies were then calculated based on the levels of questios included in each unit of 8th grade student's textbook. The table below shows the questions' levels, their frequencies and their percentages according Gallagher and Ashner Textonomy

Table (5) The frequencies and percentages of questions at each level of the Gallagher and Ashner.

**Textonomy for 8th grade student's textbook.**

| Skills     | Gallagher and Ascher's Taxonomy |      |                            |       |                           |      |                            |      | Number of the Questions | %    |
|------------|---------------------------------|------|----------------------------|-------|---------------------------|------|----------------------------|------|-------------------------|------|
|            | <i>cognitive-memory</i>         | %    | <i>Convergent thinking</i> | %     | <i>Divergent thinking</i> | %    | <i>Evaluative thinking</i> | %    |                         |      |
| Speaking   | 25                              | 11.3 | 22                         | 6.5   | 2                         | 5.4  | 0                          | 0.0  | 49                      | 8.0  |
| Reading    | 35                              | 15.8 | 60                         | 17.8  | 12                        | 32.4 | 0                          | 0.0  | 107                     | 17.5 |
| Vocabulary | 10                              | 4.5  | 36                         | 10.7  | 15                        | 40.5 | 0                          | 0.0  | 61                      | 10.0 |
| Grammar    | 41                              | 18.6 | 71                         | 21.1  | 0                         | 0.0  | 0                          | 0.0  | 112                     | 18.3 |
| Listening  | 49                              | 22.2 | 74                         | 22.0  | 2                         | 5.4  | 0                          | 0.0  | 125                     | 20.5 |
| Writing    | 0                               | 0.0  | 0                          | 0.0   | 0                         | 0.0  | 11                         | 68.8 | 11                      | 1.8  |
| Focus on   | 61                              | 27.6 | 74                         | 22.0  | 6                         | 16.2 | 5                          | 31.3 | 146                     | 23.9 |
| Sum        | 221                             | 36.1 | 337                        | 55.16 | 37                        | 6.06 | 16                         | 2.62 | 611                     | 100  |

Table (5) shows that the number of frequencies of Gallagher and Ashner Textonomy questions levels in student's textbook for 8<sup>th</sup> grade has reached (611) over all units of the textbook. Questions levels of are organised as follows:

The first category is convergent thinking questions, which has the highest frequency of 337 and a percentage of 55.16%. It is followed by cognitive-memory level, which has a frequency of 221 and a percentage of 36.1%. The third level is the divergent thinking level, which has a frequency of 37 and a percentage of 6.06%. The fourth, is an evaluative thinking question, which has a frequency of 16 and a percentage of 2.62%.

In terms of English language skills, Listening is ranked first with a percentage of 20.5%, and grammar is placed second with a percentage of 18.3%.

The results show that the questions in the textbook belong to Convergent level of thinking, which is the second level of Gallagher and Ashner's textonomy. This means that the questions in the textbook do not reach a higher level of thinking. Furthermore, the results show that the questions of listening skills come first in order, indicating that the writers of this textbook do not consider how listening skills are neglected in our classrooms due to a lack of equipment and electricity. This could also suggest that the authors of eighth-grade English textbooks and workbooks emphasise lower-level cognitive processes. This implies that the authors were still influenced by the traditional English curriculum, which focused on grammar and vocabulary.

## **2-What are the levels of questions' inclusion in English student's workbook for the eighth grade according to Gallagher and Ashner levels of thinking?**

To answer this question, the researcher examined all the questions in the student's workbook applying Gallagher and Ashner levels of thinking. The type of question analysis was used as a unit of analysis category. The frequencies were subsequently calculated based on the levels of questions in each unit of English eighth-grade student's workbook. The table below illustrates the levels of the questions, their frequency, and their percentages based on Gallagher and Ashner Textonomy.

**Table (6):The frequencies and percentages of questions at each level of Gallagher and Ashner Textonomy for 8th grade student's workbook**

| Skills     | Gallagher and Ascher's Taxonomy |       |                     |       |                    |      |                     |      | Number of the Questions | %    |
|------------|---------------------------------|-------|---------------------|-------|--------------------|------|---------------------|------|-------------------------|------|
|            | cognitive-memory                | %     | Convergent thinking | %     | Divergent thinking | %    | Evaluative thinking | %    |                         |      |
| Speaking   | 16                              | 10.9  | 18                  | 5.6   | 5                  | 17.2 | 1                   | 4.8  | 40                      | 7.7  |
| Reading    | 54                              | 36.7  | 45                  | 13.9  | 0                  | 0.0  | 2                   | 9.5  | 101                     | 19.4 |
| Vocabulary | 11                              | 7.5   | 45                  | 13.9  | 24                 | 82.8 | 1                   | 4.8  | 81                      | 15.5 |
| Grammar    | 34                              | 23.1  | 150                 | 46.3  | 0                  | 0.0  | 1                   | 4.8  | 185                     | 35.5 |
| Listening  | 32                              | 21.8  | 66                  | 20.4  | 0                  | 0.0  | 2                   | 9.5  | 100                     | 19.2 |
| Writing    | 0                               | 0     | 0                   | 0.0   | 0                  | 0.0  | 14                  | 66.7 | 14                      | 2.7  |
| Sum        | 147                             | 28.21 | 324                 | 62.18 | 29                 | 5.56 | 21                  | 4.03 | 521                     | 100  |

**Table (6) shows that the number of frequencies of Gallagher and Ashner Textonomy levels of questions in the student's workbook for 8<sup>th</sup> grade has reached (521) over all units of the student's workbook. The levels of questions are organised as follows:**

The first category includes questions about convergent thinking, which have the highest frequency of 324 and a percentage of 62.18%. It is followed by the cognitive-memory level, which has a frequency of 147 and a percentage of 28.21%. The third level is the divergent thinking level, which has a frequency of 29 and a percentage of 5.56%. The fourth, is an evaluative thinking question, which has a frequency of 21 and a percentage of 4.03%.

According to English language skills, grammar is ranked first with a percentage of 35.5%, and reading is placed second with a percentage of 19.2%.

The results of this study are consistent with those of most previous studies. That is to say, the focus on these studies was more on lower-level than on higher-level questions. It can be seen from the results that teaching materials are still based on the traditional view because students are consumers of knowledge. In addition, textbooks were designed to encourage memorization of facts and provide students with information without giving them the opportunity to think and be creative.

#### **14- Research Recommendations:**

**Based on the results, the researcher suggests the following:**

- The level of English language questions in 8<sup>th</sup> grade student's textbook and workbook should be revised to meet the students' higher thinking levels
- Curriculum designers of new English textbooks and workbooks should review the educational content of textbooks and workbooks for eighth-grade students based on global English teaching standards and frameworks to improve their higher-order thinking skills.
- Questions in student textbooks and workbooks should be refined to accommodate Gallagher and Ashnath's four levels of Textonomy, particularly the levels of divergent and evaluative thinking
- Teachers and designers of curriculum should be trained to use and write questions according to Gallagher and Ashners' Textonomy.
- Further research should be conducted on all English textbooks and workbooks at all levels of education using Gallagher and Ashner text Textonomy.

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