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A BLOOM'S TAXONOMY-BASED ANALAYSIS OF 9th and 10th GRADES ENGLISH LANGUAGE TEXTBOOKS' FINAL EXAMINATIONS AND REVISION QUESTIONS

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Abstract

This study aimed to identify and analyze the patterns of final exam questions prepared by English teachers for the 9th and 10th grades and to analyze all the revision questions presented in the English language textbooks in Jordan, based on Bloom's taxonomy to determine the nature and types of these questions. The sample of the study consisted of (63) English language teachers (31 male and 32 female teachers), the English language revision questions within the 9th and 10th grade textbooks, and questions included in the 1st semester final exams in 2018 for 9th and 10th grades. To achieve the goals of the study, the researchers developed an analytical card for the revision questions and the exams papers prepared by teachers. Results indicated that the questions of teachers' final exams' papers based on Bloom's taxonomy, remembering level had the highest relative average with a percentage of (30.75 %) and the analysis level had the lowest level with a percentage of (4.07%). Results also indicated convergent percentages among the revision questions, where both the comprehension and the application levels had the highest frequencies with a percentage of (26.56%). Moreover, results indicated no statistical significant differences, at the level of analyzes, between the questions of the final exams and the textbooks revision questions. However,, statistical significant differences were indicated between the frequencies and the percentages of the analyzed questions of the final exams and the textbooks for grade 9 and grade 10 and the highest was the remembering level with percentages of (17.19%) for the remembering within the textbook revision questions and (30.75%) for teachers' final exams. By way of concluding, this study highlights several recommendations, among which the Ministry of Education is advised to benefit from the results of such a study in developing the English language textbook.

Keywords: Final examinations, revision questions, English language, textbook, Bloom's taxonomy.

INTRODUCTION

In his seventh discussion paper, His Majesty King Abdullah II of Jordan (2017:1) stated that: "Building our human potential, through outstanding education and improving its output, is our gateway to the future". Moreover, his majesty highlights that: "Achieving comprehensive reform is closely linked to educational renaissance regardless of the circumstances and challenges". Thus, the Ministry of Education (Henceforth: MoE) is constantly keen to create a generation of learners capable of dealing with global continuous changes, and to provide them with knowledge, skills and values in a balanced manner to form their integrated personality to contribute to the sustainable development of society. The reform of education is important and the largest is the basis for optimal investment in human capital, which is the real national wealth, the real and sustainable strategy.

Within the context of English language as the world's major second language it is the commonest language used for international business, trade, travel, communication, among many others. Among the efforts and endeavors of the MoE in Jordan to develop the educational main components, teaching English language was considered from grade 1 through grade 12 as a prevailing foreign language in the schools' curriculum.

At this stage, it is necessary to start with the assessment and evaluation. In order to apply that on learning/teaching process, it is important to analyze and evaluate the educational components, among which, is the textbooks as they are largely used and such analysis offers insights on textbooks suitability; whether they serve the purpose they supposed to serve and accomplish their set goals (Brown, 1997). In parallel to that, exam questions should have particular features and should be formulated in a manner that serves the educational development process, been designed to, and the purposes they should achieve. Actually, school's exams considered as the basis for the measurement of achievement. In parallel, revision questions used to appear at the end of each learning material (unit) of the textbook they are important aspect of self-evaluation. Actually, they provide teachers with patterns of standardized questions to develop their mid and final exams, on one hand, and enable them to evaluate their students at all levels: pre-formative, formative and, summative, on the other hand.

Hence, it is important to report that if language was seen as an aggregate of skills of various kinds (reading, speaking, writing and listening) then assessment is likely to be in terms of classification of the aforementioned skills. Meanwhile, pedagogically speaking, assessment made to determine the extent of student learning or the extent to which instructional goals have been attained. The only way that the extent to which a test actually does this can be determined is by comparing the test results with some other outside measurement, some other way of estimating pupil ability, a way that ought to be at least as reliable and accurate as the test itself.

In this context, Geoffrey, Christopher, Roger, Peter, and Anita (2003) explained ill-prepared examination as a major cause of poor performance in English language, thus the current study aims to investigate to what extent the final examination questions and revision questions within the textbooks of English language are in line with the levels of Blooms Taxonomy, on one hand, and to what extent they are compatible with each other, on the other hand.

Statement of the Problem

Given the importance of evaluation processes in general, and the importance of examinations and the textbook evaluative/revision questions (as assessment tools), in particular, it is logically important to expect its importance and impact on increasing student achievement and develop their positive attitudes. Thus, it is necessary to ensure that the students are tested for the different cognitive levels of learning, bearing in mind that teaching/learning objectives are mainly set for Bloom taxonomy. The Bloom are applied in curriculum planning and to explore to what extent the objectives of the exams questions are aligned with revision questions (included in the textbook). However, and based on the practical experience of the researchers, by direct and indirect observations or experiences, it was noticed that there is a clear weakness in developing the final exams questions; this observation was supported by similar observations of the specialized educational supervisors. These observations focused on the inadequacy of the exams in way to reflect the learning objectives to be achieved. In parallel, it worth examining the relevance and the adequacy of revision questions. This could be supported by several studies. For instance, Geoffrey et al. (2003), reported that improper examination has been explained as a major cause of poor performance in English language. Hence, the role of researchers is to prove by the analysis of school tests to what extent the final exams questions and the analysis of revision questions, as well, are appropriately referred to Bloom's taxonomy.

Questions of the Study

This study attempts to answer the following questions:

1- What are the levels of the final examination questions for the English language of 9th and 10th grades based on Bloom's taxonomy (remembering, understanding, applying, analyzing, synthesis and evaluating)?

2- What are the levels of the revision/evaluative questions included in the 9th and 10th grades textbooks of English language in Jordan, based on Blooms Taxonomy (remembering, understanding, applying, analyzing and evaluating)?

3- What is the compatibility ratio between the levels of final exams questions and the revision/evaluative questions within the 9th and the 10th grades textbook in Jordan?

Significance of the study

The significance of this study is germane to the significance of school final examinations and the significance of the textbook revision/evaluative questions. Diagnostic and evaluative tool(s) help teachers to evaluate students' progress. Moreover, this study is directly relevant to its expected results, in particular when comparing the level of final exams questions with Bloom levels, and with the levels of the textbook revision/evaluative questions for the same grades.

Theoretical Framework

There are ongoing complaints about the inadequacy of the tests in many ways, both in terms of preparation, sometimes ambiguity, the random use of patterns and forms of questions, and their inadequacy and relevance to the desired goals. Meanwhile, several conferences and committees have been held in the local and Arab communities to identify these shortcomings in order to develop scientific plans and programs to develop tests and to sound questions. However, the results of many researches and studies presented in such conferences have shown that these researches and studies tend to develop the administrative and organizational aspects of the tests, which often deal with the laws, regulations and procedures necessary to apply the tests or the necessary conditions (Kahlout, 2000).

By the same token, it is worth noting that the exams, usually conducted within schools are the most common type of achievement test. These exams are developed by teachers to measure to what extent students are able to achieve the planned learning objectives. Final exams usually cover a broad range of formal assessment(s) that are given at various points in learning including exam questions and revision incorporated in the textbooks.

There are many definitions and descriptions for achievement tests in literature. For instance Gronlund (1977) defines it as an organized procedure to determine the amount of students' learning in a given subject in the light of the specific objectives. The benefit is to improve the learning methods and contribute to the mastery of planning, control of implementation and evaluation of achievement In addition, the school examinations are part of the achievement test, so and as it is indicated by Aldhahir et, al. (2002), it is necessary to know that school examinations are a selected sample of behavior (educational outcomes) to be measured for the purpose of determining the extent of an individual's ownership of this behavior and in turn to judge the level of the aggregate via comparing his\her performance with the his\her colleagues scores.

The Purposes of the School Examinations

As indicated by the House of Commons' Report London (2008) the purpose(s) of school exams are related to the following:

1. Measurement of students' achievement: to assess it later and to know the extent of achievement of educational goals, and this is done through final tests.
2. It provides the teachers and the learners with feedback on the process of education. If the tests reveal the students' weaknesses and strength of students, they will allow the teachers to modify them.
3. Classroom tests also provide feedback to the student, helping him\her to evaluate him\herself, organize his\her time and effort, and adopt the correct study habits.
4. Revitalizing motivation to learn: most learners do not study unless an exam is set for them. Therefore, one of the main purpose of the final exams is to encourage learners to study and memorize.
5. Admission and selection are done through the test decisions for a particular institution or job

The Importance of School Examinations

In to the light of school examinations**,** assessment procedures undertaken in school's context are of great significance. Aligned with that, Boit, Njoki and Chang'ach (2012:181) reported, "Any nation desires to have a well-educated workforce with the ability to think and analyze, using varied reasoning and problem solving skills in an integrated manner". This is necessary for national development.

Every subject in the school system should be able to provide skills like critical thinking, disaster preparedness, desirable moral standards, problem solving skills, positive attitudes, mutual respect and many others. Moreover, examination questions, as reported by Cruz (2004), represent a main tool for cognitive levels assessment. In addition, it can be claimed as Abdelhadi (2001) mentioned that exams also have a great importance in the process of students' performance assessment as they provide a clear idea about students' abilities and their levels of activity and based on the results of exams, remedial plans can be drawn and modify teaching methods' levels.

Furthermore, as Al-Saraireh (2011) highlights the importance of a set standards such as objectivity, reliability and consistency in addition to other secondary characteristics that include the easiness of application and easiness of scoring. Nevertheless, final exam questions are required to be prepared in consistence with the Bloom's Taxonomy as an appropriate option by exams developers, as it is an ideal model for application on all studying materials (Alqatami and Alqatami, 2001).

Bloom's Taxonomy for Cognitive Domain

There are three educational learning domains, the first is cognitive (about knowing), the second is affective (about attitudes, feelings) and the third is psychomotor (about doing). The cognitive domain, which was introduced by Benjamin Bloom in 1950s, emphasized that there are six levels of learning starting from the simplest to the most complex, namely; remembering, comprehension, application, analysis, synthesis, and evaluation (Bloom, 1956). Being classified into several levels, Bloom Taxonomy as variable it requires different educational delivery methods, and consequently it requires different measurement and evaluation methods. The Bloom classification can be used as a tool to assert that all levels of the field are evaluated and that evaluation methods are aligned with appropriate lessons and methodologies. In this way, taxonomy also makes it simple for teachers to maintain consistency between assessment methods, content and learning materials and identify vulnerable areas (Anderson et. al, 1992:6)

There are several reasons that encourage teacher to use Bloom's taxonomy. One of these reasons is any teacher can recognize complex and cognitive development and how to construct the lower level of thinking skills. This understanding makes it easier to prioritize materials and can guide lesson organization to increase class time. Bloom's classification provides a guiding framework for breaking these standards into accessible parts, which used to guide daily lesson plans and can be easily compared with their own classroom goals. In addition, it guides the construction of revision questions and exams development with special focus on the semester final exams (Olimat, 2015).

Revision Questions

Almost every educator knows Blooms' Hierarchy. This Hierarchy has influenced curriculum and instruction since its introduction in 1956 and its revised edition in 2001. Blooms' taxonomy helps teachers to choose the relevant teaching and the relevant evaluation techniques in a way consistent with prescribed instructional objectives. Thus, Bloom's taxonomy is a reference for educators and teachers while designing the revision questions incorporated in the textbooks and questions included on the assessment test(s). In this regard, it is worth noting that textbook attract researchers and educators' attention because it is a basic component in education and depends on both the teacher and the learner in the classroom from the pedagogy perspective, and they are crucial partners in the teaching learning process it is considered the most influential educational element among learners and it includes goals, content, activities, and evaluation (Olaimat, 2015). The first version Bloom's taxonomy employed for the purpose of this study because it is more commonly used than the second version in developing the Jordanian curriculum.

Regarding the curriculum, Shehatah (1998: 17-18) states that "a curriculum represents a collection of diverse experiences offered by the school to learners inside and outside the school to achieve comprehensive growth integrated in the construction of human beings, according to specific educational goals and scientific plan is drawn physically, mentally, psychologically, socially and religiously".

The use of textbooks needs to reflect on the content, the activities of the evaluation which in turn require the teacher and the student's interaction, and questions at the end of each learning unit, where the teacher's role is to explain the purpose and answers of these questions to students (Mara'i and Alhielah, 2005).

The activities and exercises at the end of each learning subject in the textbook are significant elements in the educational process, as it motivates students to practice and learn through work and to participate in the formulation of cognitive perceptions of language, as well as to increase students' interest in the subjects that they study (Alkurdi, 1996).

Evaluation questions or evaluation activities are practical questions contained in the textbook and include procedural steps and provide students with real experiences and solution in classroom or in the real life situations outside the classroom. Mousa (2000) and Shbair (2003) state that evaluation questions are the questions that follow each language lesson or each learning unit.

According to many researchers such as Mara'i and Alhila (2005) there are many objectives of evaluation activities and evaluation questions, among which are the followings:

1. To draw the students' attention toward the important elements and main points and ideas, in the encompassed lessons,
2. To detect mistakes and misunderstandings of students through using evaluative questions,
3. To help teachers to track the students' development related to experience in the form of questions (Alghareeb, 1981; Clark, 1981, Darwazah, 2000; Abdelrazzaq, 2003).

To sum up, evaluating English language learners, as reported by Ehlers-Zavala (2002: 8-9) is a "process of collecting and documenting evidence of student learning and progress to make informed instructional, placement, programmatic, and/or evaluative decisions to enhance student learning, as is the case of assessment of the monolingual or mainstream learner". Thus, English language teachers should possess pre knowledge regarding the aspects of the assessment they conduct. In this regard, Lenski et al. (2006) indicate that English language teachers, and before conducting an assessment or an exam, should know the answers of basic questions such as Who are going to be assessed? How to assess them? Why to assess them? What specific aspects to be assessed? When to administer the assessment? To answer such questions, teachers should investigate their students' prior schooling before assessment.

Literature Review

There are important studies that address similar question(s) or that may offer suggestions for key elements of the study framework, and more importantly, to identify a place where a new contribution could be made, among which are the following:

Nurisma (2010) studies the types of reading questions and the frequency of each type in English e-book based on levels in Bloom's Taxonomy. The sample of the study consisted of (400) questions contained in "Developing English Competencies for senior high school grade XI". The criteria of Bloom's Taxonomy were employed for analyzing the data. The results of the data analysis revealed that the reading questions in the textbook of "Developing English Competencies" covered five levels of reading comprehension based on Bloom's Taxonomy. The remembering questions dominated in the reading questions of "Developing English Competencies" followed by application, analysis, and evaluation, which were presented in a few questions.

Bani Abdelrahman (2014) examines the types and levels of questions available in the tenth grade English language textbooks, which were used in Jordan 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. The sample of the study consisted of the Tenth grade English language textbook. 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. In light of the results, the researchers recommended improving the questions in the textbooks 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.

Alzu'bi (2014) analyzes English questions of the Jordanian Secondary Certificate Examinations via Blooms' cognitive levels. An analysis sheet was prepared by the researchers for the purpose of the study, which was ensured to be valid and reliable. The whole questions of the general secondary examinations for English course in both levels (level three and level four) during 2010-2013 composed the sample of the study. Frequencies and percentages were tabulated to facilitate the analysis of the results. The result of the study revealed that the total percentage of the first three levels (comprehension, remembering, and analysis) is (69.6) but the total percentage of the last three levels (application, synthesis, and evaluation) is (30.4) so it indicated that the English questions included in general secondary examinations emphasize low order thinking levels.

Olimat (2015) Analyzes Action Pack Textbooks' Questions according to Revised Bloom Taxonomy for 7th, 8th, 9th, and 10th grades and to determine the frequencies and percentages of the questions in the six levels of the cognitive domain. The study consisted of two samples: English language instructors and English text books "Action Back" the population of this study consisted of the questions included in the 7th, 8th, 9th, and 10th grade English textbooks "Action Pack series. The results showed that the distribution of questions on the remembering level was nearly the same in 7th, 8th, and 9th grades, while on the 10th grade it was higher. The distribution of questions also was better in 10th grade for the application and synthesis levels. The results also showed that 8th, 9th and 10th grades got nearly the same distribution of questions on the remembering level of Bloom Taxonomy, while the 7th grade got the highest percentage where it was 14.2%.

Febrina, Usman, and Muslem (2019) investigates the three up levels of cognitive domain of revised Bloom's Taxonomy used in the textbook entitled Bahasa Inggris SMA/MA/SMK/MAK grade 11th semester 1, namely analyzing level (C4), evaluating level (C5), and creating level (C6). Using the descriptive qualitative method and content analysis, this study examined the questions in the reading comprehension tasks only to determine to what extent the reading comprehension questions emphasize on Higher Order Thinking. This research focused on analyzing the Bahasa Inggris SMA/MA/SMK/MAK textbook grade 11th semester 1 published by the Ministry of Education and Culture. The researcher collected and listed the questions in the reading comprehension tasks and then calculated the percentage and frequencies of each level of cognition in each separate book chapter and in all five combined book chapters. The results showed that the most dominant level in the textbook was higher order thinking skills HOTS). It was 66.8 % of 100 % while it was 33.4 % for lower order thinking skills LOTS). It indicated that this textbook concentrated more on higher –level thinking questions than lower lever thinking.

Comments and Conclusions on the Literature Review

Considering such studies, it can be noticed that this study is in a different league. Several studies were conducted to study questions in textbooks according to Bloom's, and most of them recognized the importance of textbooks and audit questions as in Nurisma (2010), Alzu'bi (2014), Bani Abdelrahman (2014) and Olimat (2015). Whereas, the study of Febrina et al (2019) investigates the alignment between comprehension questions and the revised Bloom's taxonomy levels.

The uniqueness of the current study emerged from its capacity in contributing to the trend of analyzing the questions of the final exams and the revision/evaluative question within the textbook. Thus, it can be claimed that this study is the first that combines the analysis of the textbooks' revision and practices questions, coupled with the analysis of final exam questions for these books. The researchers benefited from the above-mentioned studies in drawing the procedures of this study and in selecting the appropriate analytic treatments and finally in supporting the findings of this study by comparing them with the similar finding in the earlier studies.

METHODS

To achieve the goals of this study, the researchers adopted the analytical descriptive approach.

Population and Sample of the Study

The population of the study consisted of all the final exams questions prepared by English language teachers for 9th and 10th grades in Alkarak and the Southern Mazar directorates of education for the scholastic year of 2017-2018, and all the revision questions within the textbooks of the two grades, in addition to the teachers themselves. Actually, 9th and 10th grades are the end of basic education in Jordan, so the teachers' practices (germane to tests' preparation) will be more reflective, and the same applied in the quality of the textbooks in terms of included revision questions. Thus, the study consisted of two types of samples: English language revision questions within the textbook and questions, which are presented, in the semester's final exams. It is worth noting that the entire population of the study was targeted, thus the distribution of the final exam questions and final test papers for both 9th and the 10th grades are shown in Table 1 below:

Table 1. Distribution of the final exams question based on the grade variable

Grade	Number of final exam papers (Prepared by Teachers)		Number of final exam questions (Prepared by Teachers)	
	Females	**Males**	**Females**	**Males**
9th	36	28	478	298
10th	34	24	455	268
Total	**70**	**52 (122)**	**933**	**566 (1499)**

The total number of final exam papers reached (n=122), whereas the total number of questions within the final exams papers were (n=1499).

The second type of study sample is all of the revision questions presented in the English language textbook of the 9th and 10th grades (Action Pack series) based on Bloom's Taxonomy, with the total of (64) revision questions.

The textbooks used in the study and the distribution of the included questions are shown in Table 2 as they were in use during the academic year 2017-2018 at the time of the application of this study.

Table 2. Distribution of the revision questions over the 9th and 10th grade textbooks

Title of the textbook	Grade	Number of questions included	Publication year	Publisher
Action pack 9 (SB)	9th	35	2013/2014	The Ministry of Education
Action pack10 (SB)	10th	29	2013/2014	The Ministry of Education
Total		**64**		

SB = Student Book

Study Tool

The researchers have developed an analytical card for the revision questions listed at the end of the learning units and the exams' papers prepared by teachers for the 9th and the 10th grades in English language at the end of the semester. The card included the six levels of Bloom's taxonomy (analytic unit) represented by knowledge, comprehension, application, analysis, synthesis and evaluation.

Validity of the Tool:

Validity of the tool was verified as it is evaluated by faculty members in Mu'tah University specialized in curriculum and instruction and others specialized in measurement and evaluation, in addition to educational supervisions. The specialists were asked to provide feedback about the extent of the tool appropriateness for the purpose of the study, and its validity for the analysis of the targeted questions, with special reference to its ability to analyze the dimensions and the levels of the questions included

in the English language textbooks for both the 9th and the 10th grades, based on the Blooms' hierarchy. The specialists approved the efficiency of the tool and no modification was required.

Reliability of the Tool:

The reliability of the tool was verified by employing the analysis and reanalysis approach for questions within two weeks after the first analysis. For more verification for the reliability of the tool, an English language educational supervisor was asked for assistance. After reviewing the study presentation and the utilized analytical approach the educational supervisor was asked to analyze a sample of the exams' papers as well as a sample of the revision. Then agreement ratios between the three analyses were calculated using Holsti's formula as follows:

$$C.R = \frac{(2M)}{(N1+N2)}$$

Where C.R indicates the Reliability Coefficient, M: Agreement times between the researchers themselves and the agreement between the researchers and the other analyzer, N1 + N2: Total of questions analyzed (times of agreements + times of controversies) as shown in Table 3.

Table 3. Analysis reliability coefficients between the researchers, themselves, the researchers, and the other analyzer

Questions	Grade	First and the second rounds for the researchers	The researchers analysis for the first round with 2nd analyst	The researchers second round with the 2nd analyst
Final Exams' Papers	9th	.92	.87	.89
	10th	.94	.90	.86
	Average	**.93**	**.88**	**.87**
Revision questions	9th	.93	.84	.82
	10th	.95	.91	.87
	Average	**.94**	**.87**	**.85**

Table 3 shows that the total reliability coefficients analysis for test papers between the researchers and themselves was (.93), between the researchers and the specialist was (.88) in the first round and (.87) between the researchers and the specialists in the second round. Regarding the revision questions analysis' reliability, it was (.94) between the researchers and themselves, between the researchers and the specialist it was (.87) in the first time and was (.85) between the researchers and the specialists in the second round. These values are appropriate for the purpose of this study.

Procedures of the Study

To achieve the goal of the study, the following procedures have been adopted:

1-The researchers obtained an official letter facilitate their task to obtain the English language final examinations' papers from public schools of the two directorates of education in Jordan.

2- In parallel to the collection of exams' papers from the schools, the researchers collected relevant information about teachers who were teaching the ninth and tenth grades, in particular the information germane to study variables.

3- The revision questions presented in the English language textbook of the 9th and 10th grades (Action Pack series), were transcribed to facilitate the process of analyzing.

4- The collected data (final exams questions and the transcribed evaluative/revision questions) were classified according to Bloom's Taxonomy

5- Another Two teachers of English language were trained on how to classify the question based on Bloom's taxonomy classification.

6- Establishing the Coefficient reliability of the analysis process.

7- Concluding with the findings and their discussion.

Statistical Treatment

To answer the study's research questions, the researchers conducted the statistical treatments using the SPSS software as follows:

1- To answer the research 1st and 2nd questions, percentages and frequencies were calculated based on each level of questions levels.
2- To answer the research 3rd question, the independent samples test was employed.
3- To check the study tools' reliability, Holst formula was employed.
4- To describe the study samples characteristics, frequencies and percentages were calculate.

Limitations of the Study

There are several limitations that should considered while reading this study, among which are, this study was limited to the analysis of the final exam questions prepared by the English teacher for grades 9 and 10 in Jordan, during the first semester of 2017/2018. In parallel, this study is limited to the revision questions presented in the English language textbook of the 9th and 10th grades (Action Pack series) in Jordan according to Bloom's Taxonomy.

RESULTS and DISCUSSIONS

Results related to the research first question: What are the levels of English language final exams' questions for both 9th and 10th grades based on the six levels of Bloom taxonomy (remembering, understanding, application, analysis, synthesis and evaluation)?

To answer this question, the researchers analyzed (122) test papers (64) for 9th grade and (58) for 10th grade), including the total of (1499) questions. The frequencies and percentages calculated based on each level of questions' levels (knowledge, Comprehension, application, analysis, synthesis and evaluation) at the level of each studying grade and the total level as shown in Table 4.

Table 4. Percentages and frequencies for the final exams' questions of the English Language for 9th and 10th grades based on the Bloom Taxonomy six levels

Grade	Bloom 's cognitive levels						
	Remembering	**Comprehension**	**Application**	**Analysis**	**Synthesis**	**Evaluation**	**Total**
9	247	230	135	27	119	18	**776**
10	214	192	131	34	107	45	**723**
Total	461	422	266	61	226	63	1499
Ratio	**30.75%**	**28.15%**	**17.75%**	**4.07%**	**15.08%**	**4.20%**	**100.00%**

Data shown in Table 4 indicate that the sum of questions in English language teachers' test papers for 9th and 10th which were analyzed reached (1499) questions, (776) questions of them were for 9th grade which represented (52%) of the total questions and (723) questions for 10th grade which represented (48%) of the total questions analyzed and this reflects close ratios among the test papers of the 9th and the 10th grades.

For the classification of the questions of 9th and 10th grades English language teachers' final test papers based on the six levels of Boom's taxonomy, the remembering level had the highest relative average among the questions with a percentage of (30.75 %). It is followed by comprehension level with a percentage of (28.15%). Third came the application with (266) questions and a percentage of (17.75 %), then came the synthesis level with a percentage of (15.08 %), the fifth rank was occupied by the evaluation level with (63) questions and a percentage of (4.20%) and finally came the analysis level with (61) questions and a percentage of (4.07%). It can be noted that the relative averages for the 9th and 10th grades' questions are convergent for the remembering, comprehension, application, analysis and synthesis levels as the remembering level came with percentages of (53.58% and 46.42%), the comprehension level (54.50% and 45.50%), the application level (50.75% and 49.25%), analysis level (44.26% and 52.65%) and the synthesis level (47.53% and 52.65%) for both the 9th and the 10th grades

respectively while there was significant variation between the 9th and the 10th grades at the evaluation level as the evaluation questions' percentage for the 9th grade was (28.57%) and (71.43%) for the 10th grade of total classified questions at the evaluation level for both grades.

By reviewing the above mentioned results, it is clear that the most prominent dimensions within the English language test questions for 9th and 10th grades prepared by teachers were within the remembering level with a percentage of (30.75%), aligned with that is the comprehension level with a percentage of (28.15%) and with a significant difference from the other levels. These results can be attributed to teachers focus on the main concepts and terms that contribute in preparing for the other levels and can be utilized as a base for the subsequent remembering construction. Moreover, these results can also be attributed to the easiness of designing this type of questions within the remembering and comprehension levels as this is not designed and prepared in addition to teachers' lack for commitment to the steps of designing a good achievement test that takes many considerations into account such as the relative significance for studying units and Bloom's taxonomy levels when planning to construct a test as they have not often received the appropriate training for designing tests based on the good criteria for tests. If such training has been offered, as indicated by AL-Wreikat, Abdullah and Kabilan (2010), it is of that kind that prone at most to the theoretical aspect without utilizing the practical aspect and following up the training effect, which contributed in increasing the remembering, and comprehension levels among teachers' questions.

The researchers see that the low percentages/frequencies of evaluation levels among teachers' questions is due to the nature of this type of questions as the evaluation level is the highest level among Bloom's levels and requires judgments on a specific situation or a certain rule which in turn requires more effort from teachers when designing this type of questions. This result can also be attributed to the low achievement level among most students in English language, which makes teachers to avoid this type of questions, although this is a violation of teaching rules that require upgrading the student to the level of the material instead of degrading the material to students' level. This result is apparent and compatible with students' results in the national and international tests, such as the TIMSS on the international level and the Tawjihi (GSEC) tests on the national level, as most of these results indicate the students' low level in aspect of high-level questions, because they do not undergo experiences similar to this type of questions that confirm the higher mental levels in the learning process. However, the discussed results are in contrast with the results of the study of Febrina et al (2019), where higher order thinking levels of Bloom's taxonomy are more dominant in the textbook questions.

Results related to the research second question': What are the levels of revision\evaluation questions that are listed in the school lesson for the 9th and the 10th grades in English language in Jordan based on Bloom's taxonomy (remembering, understanding, application, analysis, synthesis and evaluation)?

To answer this question, the researchers analyzed the revision questions at the end of the learning units for the 9th and the 10th grades in English language textbook, and then percentages and frequencies were calculated based on each level of questions' levels, at the level of each grade and the total level as shown in Table 5 below.

Table 5. Percentages and frequencies of revision questions' levels as presented in the English Language textbook for the 9th and the 10th grades

Grade	Bloom 's cognitive levels						
	Remembering	Comprehension	Application	Analysis	Synthesis	Evaluation	Total
9	6	8	7	3	3	2	29
10	5	9	10	5	4	2	35
Total	11	17	17	8	7	4	64
Ratio	**17.19%**	**26.56%**	**26.56%**	**12.50%**	**10.94%**	**6.25%**	**100.0%**

Results in Table 5 show that the analyzed questions within the revision questions, in the targeted instructional units in the English language textbook for 9th and 10th grades, were (64) questions with (29) questions for the 9th grade and (35) questions for the 10th grade with a percentage of, respectively, (45.31%) and (54.69%). These percentages reflect convergent percentages among the revision questions for both the 9th and the 10th grades.

With regard to the classification of questions listed in the revision questions based on Bloom's taxonomy, results revealed that both comprehension and application levels had the highest frequencies with (17) questions for each level with a percentage of (26.56%), followed by the remembering level with the total of (11) questions and a percentage of (17.19%), while the third rank was occupied by the level of analysis with the frequencies of (8) questions and a percentage of (12.50%), the fourth rank was occupied by the synthesis level with the frequencies of (7) questions and a percentage of (10.94%), and finally the fifth rank was occupied by the evaluation level with the frequencies of (4) questions and a percentage of (6.25%).

The aforementioned results indicated that the frequencies of the revision questions' classification for the 9th and the 10th grades were similar within the evaluation level with (50%) for each grade. Nevertheless, there was apparent differences between the 9th and the 10th grades within the other levels (remembering, comprehension, application, analysis and synthesis) as percentage of the remembering level was in favor of the 9th grade as it reached (54.55%) compared to (45.45%) for the 10th grade of the total classified questions within the remembering level while the levels of comprehension, application, analysis and synthesis were in favor of the 10th grade compared to those for the 9th grade.

In light of the aforementioned results, it is clear that, based on Bloom's taxonomy, the first rank was occupied by the levels of comprehension and the application with a percentage of (26.56%) for each level. These results reflect the frequencies that confirming the categories of lower mental levels', minimal limits (comprehension) with the maximum level was the application and the least levels were; (analysis, synthesis and evaluation) ranging from (6.25%) to (12.50%). This is in turn indicates a clear inappropriateness of the questions' sequence, which requires increased focus on the higher mental levels. This result can be attributed to the difficulty in developing questions within the higher mental levels even at the level of developing curriculum and its textbooks, and this can be extended to the result of the final exams' questions. The researchers also see that dominance of lower level of the mental levels within the revision questions may directly reflected on the questions prepared by teachers as they often tend to consider them as a model during the process of exams' preparation which made them limited to the lower mental levels when designing achievement tests.

Result related to the research third question: What is the compatibility ratio between the levels of final exams' questions and the revision/evaluative questions within the 9th and the 10th grades' textbook in Jordan?

To answer this question, the independent samples' test was conducted to identify the existence of differences in averages percentages of questions in the English language textbooks for the 9th and the 10th grades based on the Bloom's taxonomy based on the variable of questions' type (revision questions\teachers' final exams), the results are shown in Table 6.

Table 6. Independent samples' test to identify differences based on the Bloom's taxonomy according to the variable of questions' type (revision questions\teachers' final tests)

Bloom's Cognitive Levels	Type	Mean	Std. Deviation	T	Sig
Remembering	Final exams	30.75%	.09	2.15	.03*
	Revision questions	17.19%	.05		
Comprehension	Final exams	28.15%	.09	.293	.77
	Revision questions	26.56%	.02		
Application	Final exams	17.75%	.07	-1.75	.082
	Revision questions	26.56%	.30		

Analysis	Final exams	4.07%	.05	-2.68	.00*
	Revision questions	12.50%	.03		
Synthesis	Final exams	15.08%	.08	-.800	.421
	Revision questions	10.94 %	.03		
Evaluation	Final exams	4.20%	.06	-.522	.60
	Revision questions	6.25%	.04		

*p<.05

Table 6 indicates no statistical significant differences between the frequencies and the percentages of the analyzed questions of the final exams and the revision questions within the textbooks for the 9th and the 10th grade according to the Bloom's levels, in particular the levels of (comprehension, application, synthesis and evaluation) with the significance of (T) value of (.77, .082, .421, .60 respectively, and these values are attributed to the variable of questions' type (revision questions\ teachers' final exams). However, there were statistically significant differences between the frequencies and the percentages of the analyzed questions of the final exams and the revision questions within the textbooks for grade 9 and grade 10, in particular at the level of remembering questions with percentages of (17.19%) within the textbook revision questions and (30.75%) for teachers' final exams' questions. These differences were in favor of teachers' final exams as they were most prominent in the remembering level compared to revision questions, whereas at the analysis level it was in favor of the revision question with the percentage of (12.50%), while it was (4.07%) for teachers' final exams' questions. Figure (1) below shows the variation in questions' average percentages within Bloom's taxonomy based on questions' nature (revision \ teacher's final exams).

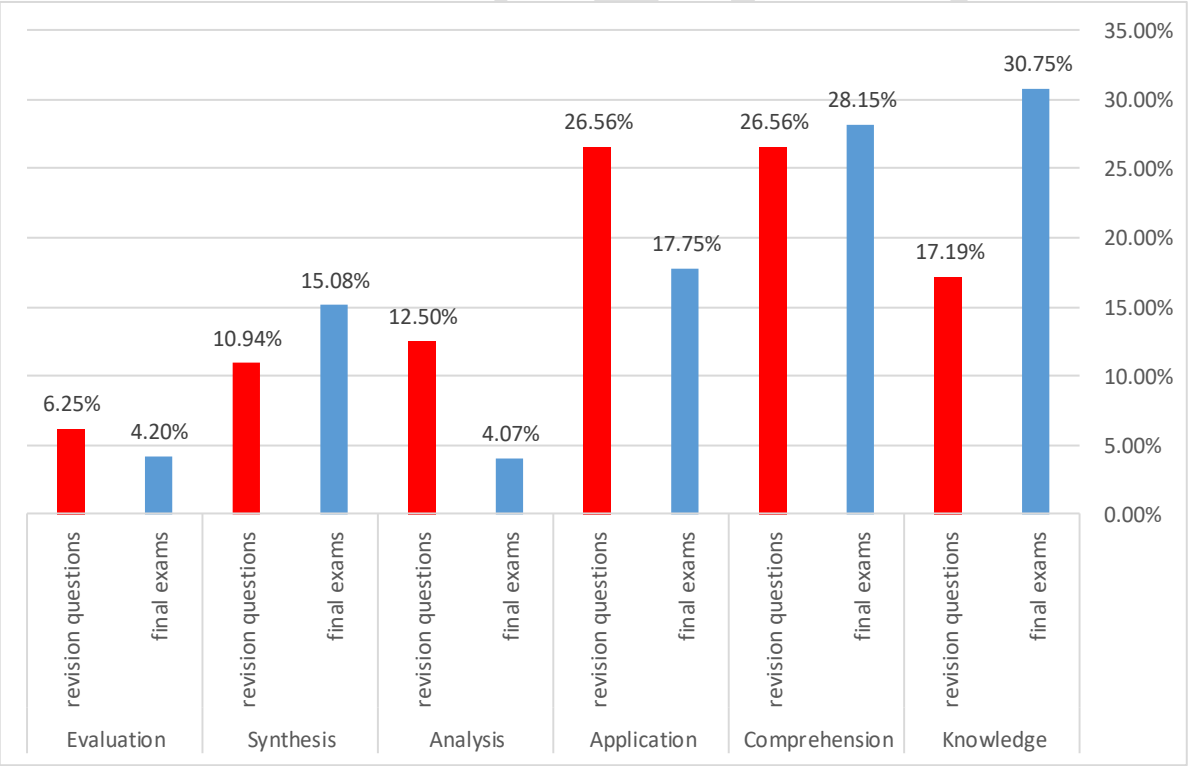

Figure 1. Variation in questions' average percentage within the Bloom's Taxonomy based on the questions nature variable (revision questions\final exams)

In light of the aforementioned results that indicates no significant statistical differences in the questions' average percentage according to Bloom's levels (comprehension, application, synthesis and evaluation). This result can be attributed to the reality that teachers when designing achievement test trying to imitate the nature of questions exist within the revision questions and prepare parallel questions for them and at the same level (as the revision questions are already standardized and its

validity and reliability were verified), in addition synthesis level was rare within revision questions based on the analysis of the 3rd research question which in turn reflected the existence of this level among teachers' questions and so there was a lack for this level in final the exams' questions.

Results also indicated significant statistical differences within the remembering and the analysis levels as differences in the remembering level were in favor of final exams questions prepared by teachers, and differences in the analysis level were in favor of revision questions. The researchers attributes this result to the easiness of questions' preparation within the remembering level which makes teachers tend to employ it more than other levels. They are required to provide more questions at the end of the educational material to cover all of its aspects in addition to their tendency to focus on the remembering level which is considered – from their perspective- as the base that can be relied on in teaching students in light of the achievement weakness in English language compared to other subjects. Moreover, researchers see that the existence of differences in the analysis level in favor of the unit revision questions due to the difficulty in constructing this type of questions which needs an extra efforts from teachers, which teachers lack for. These results reflect the nature and levels of learning materials within textbooks.

The researchers' noticed that English language teachers highly rely on the questions contained in textbooks including revision questions in designing final exams in English language and there are no studies that addressed the relationship between the revision questions in the English language textbook and the final exams.

Recommendations

In light of the results revealed by the study, the researchers suggested a group of recommendations as follows:

1. The Department of Curriculum and Textbooks in the Ministry of Education, in Jordan, expected to benefit from the results of such this study in aspect of developing the English language curriculum. In particular, special concern to be paid to the component of evaluation (the levels of the revision questions included in the English language textbooks, and to consider questions distribution based on the Bloom's levels and in accordance with the nature of goals and objectives the curriculum seeks to achieve with emphasizing or the higher mental levels' questions.
2. Involving teachers in practical training workshops to empower their ability for test items' construction that simulate the whole Bloom's levels in addition to provide them with appropriate instructions regarding a good test construction steps.
3. Conducting further analytical studies to analyze questions presented at the end of learning units in the English language textbook for other grades.

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