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Analysis of Exam Questions of English Summative Assessment Using Bloom's Taxonomy

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ABSTRACT

The present study was designed for analysing the cognitive levels of exam questions of English papers of Class 9th and 10th in BISE, Karachi and BISE, Lahore for academic years 2022-2023 using Bloom's Taxonomy. The study examined 320 questions of 16 English papers. A research instrument i.e. a checklist was adapted after modifying the checklist regarding Bloom's Taxonomy used by Tangsakul, et al, (2017). The adapted checklist was employed to record and tally the cognitive levels of the questions collected from the exam papers. Descriptive qualitative method was employed for analysing the data. The findings showed that Comprehension level was frequently used in exam papers. Fewer questions appeared from Analysis and Synthesis levels and not a single question appeared at Evaluation level in all papers. Exam papers have a greater number of questions of lower cognitive domain than higher cognitive domain based on Bloom's Taxonomy. Based on the findings, some suggestions have been outlined with the purpose of setting exam papers based on both lower and higher cognitive domains in proper proportion and development of critical thinking among students.

Keywords:

Bloom's Taxonomy, Exam questions, Summative assessment, BISE, Secondary level.

Introduction

Assessment is an integral content of learning to find out the competence and to explore hidden skills of learners. Brown et al, (2008) called assessment the most challenging and theoretical tool. An effective assessment has quality questions that create curiosity about answers among learners. Questions in exams can assess the learners' skills to generate multiple answers and bring out the solutions for various tasks. Assessment literacy of the examiner has a central role in framing effective assessment for assessing learners' cognition. Questions regarding knowledge or familiarity of particular information lack features of developing critical thinking.

Background of the study

English language, being a lingua franca, is the need of the day thus it is being taught all over the world. In Pakistan English is an essential part of a compulsory subject and a second language at each stage of the learning process. Effective evaluation of the English language is a prerequisite and exam questions of assessment play the most important part in measuring the mastery and proficiency of students. The curricula of English are designed to accomplish individual's and societies' interests, needs, and expectations frame in a systematic process. Teaching English has certain objectives, perpetuate with the learning-teaching process and complete with an evaluation process (Broadfoot, 2007). Each component has its significance and perpetuity of

the process. Evaluation, the last component, highlights the effectiveness of the whole educational program. Evaluation helps to show the strengths and weaknesses of the curriculum developers and practitioners and also assesses the characteristics and talents of the learners.

An effective evaluation is only possible using good quality questions; the choice of good quality questions fits the contents of the results and subjects make the evaluation process efficient (Dickli, 2003). Good quality questions have the potential of measuring high cognitive levels and stimulating the thinking process. Such questions are based on Analysis, Synthesis, and Evaluation. Some questions that don't reflect critical thinking belong to the Knowledge, Comprehension, and Application categories of the lower cognitive domain.

Bloom's Taxonomy is highly accepted in measuring cognitive levels (Bumen, 2007). This taxonomy has six levels that are hierarchical in nature and levels in a hierarchical cognitive domain are ranged from easy to complicate. Each level is the prerequisite to the previous one and moves from material to intangible. Knowledge, Comprehension, Application are considered as the lower-level of the cognitive domain, while Analysis, Synthesis, and Evaluation are the higher-level of the cognitive domain of Bloom's Taxonomy (Bloom, 1956).

Statement of the Problems

An examination is a fundamental element of the education process as it determines the destiny of the promotion of students. The examination system in Pakistan assesses reproducing capabilities rather than cognitive skills of the students so all instructions are delivered in this regard (Khan, 2006). Exam questions of English measure the mastery of students on the contents of exams rather than indicate the extent to which learning objectives have been achieved.

Exam papers of English are hardly representative of the entire curriculum (Sarwar et al., 2011). Besides, they are recurring every three to five years so questions can be expected. Furthermore, students frequently boycotted the exams of English claiming the contents of exam paper being out of the syllabus (Erfan, 2000). This study was not simply designed to reveal the cognitive level of exam questions of English papers given at the Secondary level of Board Exams in Pakistan but also offered an analysis of frequently used cognitive domains of Bloom's Taxonomy. The research would play a constructive part in setting assessment in terms of cognition properly.

Research Objectives

The present study aims:

- To explore the cognitive level of the exam questions used in summative assessment of English language at Secondary level conducted by Boards of Intermediate and Secondary Examinations in Pakistan according to Bloom's taxonomy.
- To find out the cognitive level of questions that are frequently asked in exam of English language at Secondary level regarding Bloom's Taxonomy.
- To investigate that exam questions of English paper at the Secondary level contain a higher number of questions either lower-level or higher-level cognitive domain of Bloom's taxonomy.

Research Questions

The study aims to find out answers to the following questions:

1. What are the cognitive levels of exam questions in papers of English for Class 9th and 10th using Bloom's Taxonomy conducted by BISE, Karachi and BISE, Lahore during 2022- 2023?
2. Which cognitive level question is frequently asked in exams of English language in Class 9th and 10th regarding Bloom's Taxonomy?
3. To what extent do the exam questions for English in Class 9th and 10th cover the lower and higher cognitive domain of Bloom's taxonomy?

Hypothesis of the study

Questions in papers of English in Class 9th and 10th have a greater number of lower cognitive domain questions than higher cognitive domain questions conducted by BISE Karachi and BISE, Lahore during 2022- 2023.

Significance of the study

The current study investigated the exam questions employed in summative assessment of English language in Class 9th and 10th conducted by various Boards of Intermediate and Secondary Examination in Pakistan. The present study aimed to classify the magnitude of lower and higher cognitive levels of Bloom's Taxonomy for suggesting ways that may assist paper setters to design effective questions to measure the cognitive skills of the students. Moreover, the outcomes of the study would prove a great deal for paper setters in making them for adopting innovative ways in framing or adjusting questions in exam papers relating to Bloom's Taxonomy. Furthermore, the findings of the study will prove a great deal for all those taking part in ESL and EFL teaching. The results will also be valuable for ESL and EFL instructors who are serving in the private sector for framing efficient exam questions in terms of cognitive categories of Bloom's Taxonomy.

Delimitations of the Study

Within this study, the researchers employed Bloom's Taxonomy for analysing the exam questions which are set at the Secondary level in various Boards of Intermediate and Examinations in Pakistan regarding the cognitive domain. The present study is limited to English papers used in Class 9th and 10th in some Boards of Intermediate and Secondary Education in Pakistan. The data collected in the present study had no representation of other systems of examinations in Pakistan and internal annual exams conducted by an administration of Secondary Schools.

Literature Review

The literature review clearly overviews of the used sources, in a structural form, and its purpose is to evaluate and summarizes the earlier works related to present topic (Ahmad et al., 2023; 2024). Literature review provides relevant material related to the investigated question, and provide outline for the current topic (Kalhoro et al., 2023; Mailto et al.,2023; 2024;) . This part of the study describes a review of accessible literature linked to the study. The chief purpose of the study was to analyse the cognitive level of exam questions employed in Summative assessment in Class 9th and 10th conducted by BISE, Karachi and BISE, Lahore using Bloom's Taxonomy.

Assessment

An assessment is employed as a technique to find out whether the learners have succeeded in accomplishing defined targets of learning or not. Concerning assessment, it has a noteworthy effect in imparting education. It has a massive significance in evaluating to what extent the primary purposes of language teaching and learning have been accomplished. Hughes (2007) describes assessment as a method of gathering information related to learners' capability of language. Such information contains huge significance in order to have a better knowledge of language users' capability. Assessment judges the mastery of learners about concepts and material. It investigates the ability or knowledge of the learner through a procedure. It judges the perception of information and actual reality (Wiggins, 1994). In an educational context assessment is a method of examining the capability of learners through various activities and reshapes the strategy to develop thinking and judgements.

The quality of the assessment questions has a great role in affecting the students' achievements. The quality of a good exam questions carries major importance to highlight learning objectives and good strategy and good exam play an important role in this regard. The paper setter must bear in mind the criteria of creating assessment substances so the defined learning objectives could be attained. Assessment is an influential tool in examining the defined learning objectives. Designing good exam paper is a difficult task for every paper setter for producing the quality of exam items.

Examinations

Examinations, indeed, are the fact of life meaning thereby that examinations are going to stay forever. If we desire to stimulate and reward efforts to learn, if we wish for efficient and prolific schools, if we want to deal fairly with individuals based on their capabilities, we need more examinations, not less (Ebel & Trisbie,1979). At present, two types of examination have been adopted to evaluate the intellectual attainment of the pupils. Examinations may be internal or external. Internal examinations are those which are conducted by educational institutions from time to time to ascertain the progress of their pupils whereas public examinations in the context of school education are those examinations which are conducted by external agencies for certification purposes.

Questions

An activity aimed to cause response for fulfilling an objective is a question. An act that provokes response is called a question. A question is a statement employed to arouse verbal response (Wragg, 1984). Queries that evoke answers that keenly involve a student in the education system are accepted as effective questions. They have distinct and reasonable characteristics and certain functions. They lead to reasoning and awareness from lower cognitive level to higher cognitive level. Tofade, Elsner and Haines, (2013) described that questions are sources that stimulate and develop critical-thinking skills. Questions based on factual data don't serve the purpose of learning. Questions serving the purpose of building cognition have a significant role in learning (Cooper, 2013). Questions are dynamic elements in fostering learners' spirit of inquiry; develop innovative thoughts, enhance understanding and they make them aspiring targets of life. Effective questions inject the spirit of critical analysis.

Bloom's Taxonomy

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Bloom's Taxonomy, often entitled the Taxonomy of Educational Objectives, is organized with defined objects and expertise that instructors design for learners (learning objectives). In 1956 Benjamin Bloom presented this educational taxonomy. This taxonomy splits educational objectives into three "domains:" Affective, Psychomotor, and Cognitive. Orlich et al, (2004), called Bloom's taxonomy hierarchical. It means that for having good command on higher cognitive levels, it is a prerequisite to learn and have mastery on previous levels.

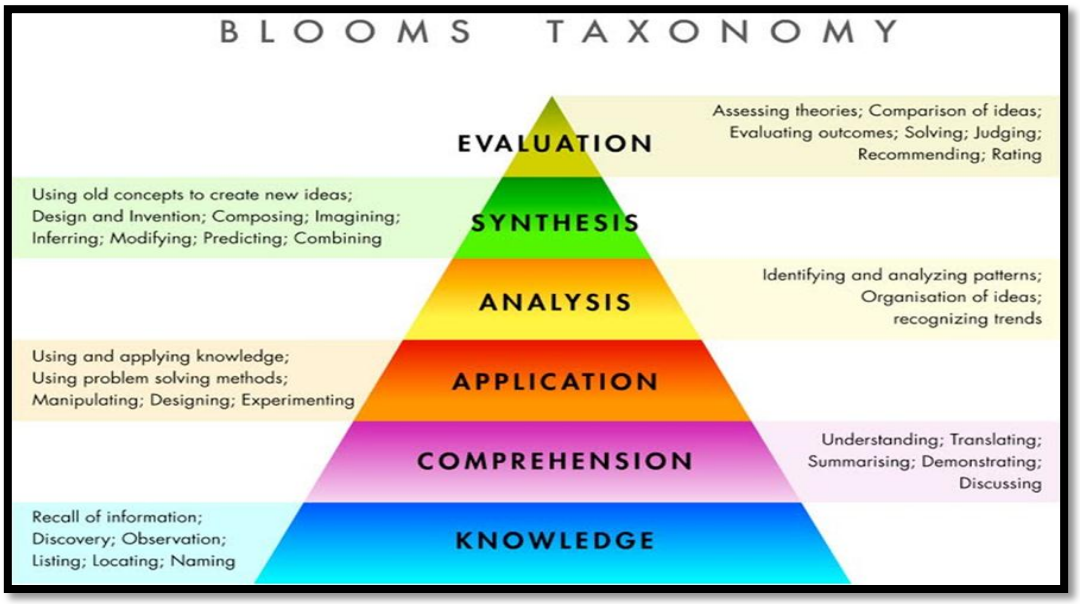

Figure 1 Cognitive levels of Bloom's Taxonomy

Previous Studies

When literature was reviewed it was observed that Aftab et al, (2014), Nooreen & Arshad (2014), Habib & Umar (2017), and some other researchers analysed books of the English language at Secondary level but no studies had been conducted for analysis of the Exam questions using Bloom's Taxonomy yet. Exam questions of English Summative Assessment at Secondary level conducted by various Boards of Intermediate and Secondary Education in Pakistan. Drawing attention to this issue, the present study explored the exam questions of English Summative Assessment in Class 9^{th} and 10^{th} conducted by various Boards of Intermediate and Secondary Education in Pakistan in line with cognitive levels using Bloom's taxonomy.

A few studies have been conducted for analysing the cognitive levels of questions using Bloom's Taxonomy in different countries. Zoller & Tsaparlis (1997) explored the usage of questions for analysing students' competence in examinations that demand higher-order cognitive skills (HOCS) or lower-order cognitive skills (LOCS) in Greece. The results of the studies showed the dominant use of question related to lower-order cognitive skills and emphasized the focus to develop the close relation between lower-order and higher-order cognitive levels and use of appropriate teaching and assessment strategies.

Köksal & Ulum (2018) in his study cited that similar researches for analysing and categorizing cognitive levels of questions regarding Bloom's Taxonomy were also in line with the research of Scott (2003); Thompson et al, (2008); Jones et al, (2009); Swart, (2010); Omar et al, (2012). The findings revealed that higher-level cognitive questions were missing and advocated the way to design exam papers using Bloom's Taxonomy.

A study by Sarwar et al, (2011) revealed that all exam questions or activities specifically questions linked with higher cognitive order were consistently missing in question items and practice of such questions was also not part of teaching in the education system. Omar et al, (2012) highlighted that in their studies that the exercise of the cognitive domain of Bloom's Taxonomy was designed for analyzing questions related to cognitive levels. On the part of educators, this taxonomy posed challenges to teachers and students in analyzing questions of examinations according to Bloom's Taxonomy.

Bibi (2014) uncovered that the questioning technique promoted critical thinking. Excess use of lower-order questions was observed. The use of lower cognitive questions did not accelerate critical thinking in students. Lack of training and poor assessment literacy on the part of teachers was one of the main causes of a poor level of questioning. She recommended that proper planning for asking good and quality questions that lead to critical thinking. Freahat & Smadi (2014) analysed cognitive categories of questions using Bloom's taxonomy and discovered that lower cognitive domain questions were highly dominant than higher cognitive domain questions and suggested bridging the gap between them while increasing numbers of higher-order question.

Ordem (2016) in his study pinpointed that cognitive development had been an essential element of education. He investigated aspects of critical thinking and found that lower cognitive levels were mightier than higher cognitive levels among participants because they were the trained in the lower cognitive domain, not in critical thinking.

Methodology and Design

This part describes the methods that were employed in the study. In particular, it discusses the research design, population, sample and sampling technique, research instruments, validity and finalization of research tools, data collection procedure and data analysis technique.

In this qualitative study, a descriptive content analysis method was employed. This method was used for analysing selected documents or text and the features of the text were converted into mathematical data for using it in any statistical operation. The procedure of this study was the deductive content analysis which highlighted the presence of the categories of analysis precisely. The study accessed the descriptive data to explore the answers to research questions.

Population and Sampling

The present study focused on Exam questions of English language summative assessment in Class 9^{th} and 10^{th}. Hence, the research was delimited to Exam questions of English language summative assessments in Class 9^{th} and 10^{th} conducted by Boards of Intermediate and Secondary Education in Pakistan. All English language summative assessments in Class 9th and 10th conducted by Boards of Intermediate and Secondary Education in Pakistan were the

populations of this study. The target population was defined as Exam questions of English language summative assessments at the Secondary level conducted by Boards of Intermediate and Secondary Education in Pakistan.

The research design of the present study was Descriptive Content Analysis. The target population consisted of all papers of English language at Secondary level conducted by Boards of Intermediate and Secondary Education in Pakistan. Exam papers from 2022-2023 were selected of BISE, Karachi and BISE, Lahore from the target population as representative samples using convenience sampling because they are "convenient" sources of data for researchers. The sample exam papers were equally taken from BISE, Karachi and BISE Lahore. The numbers of sample papers (16) were equally divided between the two Boards, 20 BISE, Karachi and 20 BISE Lahore. The sample papers were further divided class-wise, Class 9^{th} and 10^{th}, and then these papers were divided between Group-1 and Group-2.

Instrumentation and Validation

The data were collected through a research tool an adapted checklist which was prepared after making necessary modifications in the checklist used by Tangsakul et al, (2017). The adapted checklist was employed after reviewing the relevant researches of Razmjoo & Kazempourfard (2012), Riazi & Mosalaejad (2010), Kamlasi and Saham (2018), Köksal and Ulum (2018), and Demir & Eryaman (2012). After consulting the suitable relevant researches and their tools, the major task was to design the appropriate modification and adaptation of the research tool according to research objectives. The opinion about the aptness and accuracy of the relevant designed items was accumulated from the concerned specialists. The research tool was finalized after the expert opinions of the instructor.

Data collection and Data analysis

A research instrument modified checklist was adapted regarding Bloom's Taxonomy as used by Tangsakul et al, (2017). The modified checklist was employed to record and tally the cognitive levels of the questions collected from the exam papers of Class 9^{th} and 10^{th}. 320 questions obtained from 16 randomly selected exam papers of BISE, Karachi and BISE, Lahore for academic years 2022-2023 were analysed after collecting, coding and categorizing. The cognitive level of the questions includes Knowledge, Comprehension, Application, Analysis, Synthesis, Evaluation levels were used. For identifying the exam questions in terms of the cognitive thinking level extent of the questions, a descriptive analysis method through collecting, coding, categorizing, and analysing the questions according to low cognitive order: Knowledge, Comprehension and Application, and higher cognitive order: Analysis, Synthesis and Evaluation as they are categorized in Bloom's Taxonomy was employed.

For analysing the cognitive level of the questions of the exam question papers, different steps were used. From the coded questions taken from the 16 exam question papers, the frequency of each category of cognition was first calculated. The frequencies of each cognitive level were calculated to get the aggregate of each level of cognition. The aggregate of each category was divided by the total number of questions for determining the percentage for each cognitive level.

Data Tabulation and Analysis

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Statistical Representations of Data of in individual tables

Codes used:

K= Knowledge, C= Comprehension, App= Application, Ana= Analysis, Syn= Synthesis, Eva= Evaluation.

1 Statistical Representation of Data of Class 9th In Individual Tables

Table 01

Class 9th Group-1 and group-2, 2022 BISE, Karachi.

	ic levels						**estions**
	r						
	e						
	r						
	e						

Table 01 indicates the results of the exam of English paper 2022; Group-1 knowledge 7(35%), comprehension 5(25%), application 2(10%) respectively so the total percentage of lower-order cognitive domain was 14(70%). The percentage of questions linking with analysis 3(15%), synthesis 3(15%) and evaluation 0(0%) levels respectively so the aggregated percentage of higher-order cognitive domain was 6(30%).

Group-2 knowledge 7(35%), comprehension 6(30%), application 3(15%) respectively so the total percentage of lower-order cognitive domain was 16(80%). The percentage of questions linking with analysis 2(10%), synthesis 2(10%) and evaluation 0(0%) levels respectively so the aggregated percentage of higher-order cognitive domain was 4(20%). It indicates that questions regarding evaluation level were completely missing in this exam paper.

Table 02

Class 9th Group-1 and group-2, 2023 BISE, Karachi.

	ic levels						**estions**
	r						
	e						
	r						
	e						

Table 02 indicates the results of the exam of English paper 2023; Group-1 knowledge 4(21%), comprehension 9(47%), application 2(11%) respectively so the total percentage of lower-order

cognitive domain was 15(79%). The percentage of questions linking with analysis 3(16%), synthesis 1(5%) and evaluation 0(0%) levels respectively so the aggregated percentage of higher-order cognitive domain was 4(21%).

Group-2 knowledge 7(35%), comprehension 8(40%), application 1(5%) respectively so the total percentage of lower-order cognitive domain was 16(80%). The percentage of questions linking with analysis 2(10%), synthesis 2(10%) and evaluation 0(0%) levels respectively so the aggregated percentage of higher-order cognitive domain was 4(20%). It indicates that questions regarding evaluation level were completely missing in this exam paper.

Table 03

Class 9th Group-1 and group-2, 2022 BISE, Lahore.

ic levels	**estions**
r e	
r e	

Table 03 indicates the results of the exam of English paper 2023; Group-1 knowledge 7(35%), comprehension 7(35%), application 4(20%) respectively so the total percentage of lower-order cognitive domain was 18(90%). The percentage of questions linking with analysis 1(5%), synthesis 1(5%) and evaluation 0(0%) levels respectively so the aggregated percentage of higher-order cognitive domain was 2(10%).

Group-2 knowledge 6(30%), comprehension 8(40%), application 2(10%) respectively so the total percentage of lower-order cognitive domain was 16(80%). The percentage of questions linking with analysis 3(15%), synthesis 1(5%) and evaluation 0(0%) levels respectively so the aggregated percentage of higher-order cognitive domain was 4(20%). It indicates that questions regarding evaluation level were completely missing in this exam paper.

Table 04

Class 9th Group-1 and group-2, 2023 BISE, Lahore.

ic levels	**estions**
r e	
r e	

Table 04 indicates the results of the exam of English paper 2023; Group-1 knowledge 7(35%), comprehension 8(40%), application 3(15%) respectively so the total percentage of lower-order cognitive domain was 18(90%). The percentage of questions linking with analysis 1(5%), synthesis 1(5%) and evaluation 0(0%) levels respectively so the aggregated percentage of higher-order cognitive domain was 2(10%).

Group-2 knowledge 6(30%), comprehension 10(50%), application 1(5%) respectively so the total percentage of lower-order cognitive domain was 17(85%). The percentage of questions linking with analysis 2(10%), synthesis 1(5%) and evaluation 0(0%) levels respectively so the aggregated percentage of higher-order cognitive domain was 3(15%). It indicates that questions regarding evaluation level were completely missing in this exam paper.

2 Statistical Representations of Data of Class 10th In Individual Tables

Table 05

Class 10th Group-1 and group-2, 2022 BISE, Karachi.

	ic levels	**estions**
r e		
r e		

Table 05 indicates the results of the exam of English paper 2022; Group-1 knowledge 7(35%), comprehension 8(40%), application 2(10%) respectively so the total percentage of lower-order cognitive domain was 17(85%). The percentage of questions linking with analysis 2(10%), synthesis 1(5%) and evaluation 0(0%) levels respectively so the aggregated percentage of higher-order cognitive domain was 3(15%).

Group-2 knowledge 6(30%), comprehension 6(30%), application 3(15%) respectively so the total percentage of lower-order cognitive domain was 15(75%). The percentage of questions linking with analysis 3(15%), synthesis 2(10%) and evaluation 0(0%) levels respectively so the aggregated percentage of higher-order cognitive domain was 5(25%). It indicates that questions regarding evaluation level were completely missing in this exam paper.

Table 06

Class 10th Group-1 and group-2, 2023 BISE, Karachi.

	ic levels	**estions**
r e		
r		

e

Table 06 indicates the results of the exam of English paper 2023; Group-1 knowledge 5(25%), comprehension 9(45%), application 2(10%) respectively so the total percentage of lower-order cognitive domain was 16(80%). The percentage of questions linking with analysis 3(15%), synthesis 1(5%) and evaluation 0(0%) levels respectively so the aggregated percentage of higher-order cognitive domain was 4(20%).

Group-2 knowledge 7(35%), comprehension 9(45%), application 1(5%) respectively so the total percentage of lower-order cognitive domain was 17(85%). The percentage of questions linking with analysis 1(5%), synthesis 2(10%) and evaluation 0(0%) levels respectively so the aggregated percentage of higher-order cognitive domain was 3(15%). It indicates that questions regarding evaluation level were completely missing in this exam paper.

Table 07

Class 10th Group-1 and group-2, 2022 BISE, Lahore.

ic levels	**estions**
r	
e	
r	
e	

Table 07 indicates the results of the exam of English paper 2023; Group-1 knowledge 7(35%), comprehension 6(30%), application 2(10%) respectively so the total percentage of lower-order cognitive domain was 15(75%). The percentage of questions linking with analysis 3(15%), synthesis 2(10%) and evaluation 0(0%) levels respectively so the aggregated percentage of higher-order cognitive domain was 5(25%).

Group-2 knowledge 9(45%), comprehension 5(25%), application 3(5%) respectively so the total percentage of lower-order cognitive domain was 17(85%). The percentage of questions linking with analysis 2(10%), synthesis 1(5%) and evaluation 0(0%) levels respectively so the aggregated percentage of higher-order cognitive domain was 3(15%). It indicates that questions regarding evaluation level were completely missing in this exam paper.

Table 08

Class 10th Group-1 and group-2, 2023 BISE, Lahore.

ic levels	**estions**
r	
e	

Table 08 indicates the results of the exam of English paper 2023; Group-1 knowledge 7(35%), comprehension 8(40%), application 2(10%) respectively so the total percentage of lower-order cognitive domain was 17(85%). The percentage of questions linking with analysis 2(10%), synthesis 1(5%) and evaluation 0(0%) levels respectively so the aggregated percentage of higher-order cognitive domain was 3(15%).

Group-2 knowledge 6(30%), comprehension 9(45%), application 1(5%) respectively so the total percentage of lower-order cognitive domain was 16(80%). The percentage of questions linking with analysis 1(05%), synthesis 3(15%) and evaluation 0(0%) levels respectively so the aggregated percentage of higher-order cognitive domain was 4(20%). It indicates that questions regarding evaluation level were completely missing in this exam paper.

Findings

The sixteen (16) exam papers of class 9th and 10th of BISE, Karachi and BISE, Lahore for academic years 2022-2023 using bloom's taxonomy were analysed, following findings were drawn. 320 questions of 16 English papers were observed of class 9th and 10th of BISE, Karachi and BISE, Lahore for academic years 2022-2023. In Class 9th and 10th, the knowledge level questions were mostly concerned with specifics and terminology. Most questions asked at the comprehension level were linked to translation, interpretation and transformation. Most questions asked in the Application level related to the manipulation of terms. Questions appeared in analysis category were to analyse elements and relationship. In the synthesis category questions appeared belong to the production of a unique statement. Exam papers of class 9th and 10th had not even a single question of evaluation level for academic years 2022-2023.

The results of the study revealed that among 160 questions of class 9th 51 questions were Knowledge category, 61 questions were Comprehension category, 18 questions were Application category, 17 questions were Analysis category, 13 questions were Synthesis category, and no question was Evaluation category. The results of the study revealed that among 160 questions of Class 10th 41questions were Knowledge based, 60 questions were Comprehension based, 16 questions were application based, 17 questions were Analysis based, 13 questions were Synthesis based, and no question was Evaluation based.

The cognitive level that appears the most frequently was Comprehension level. The lower-order cognitive domain was found to be dominant in exam papers of Class 9th and 10th for academic years 2022-2023. There was a huge difference between the percentages of lower-order and higher-order among exam questions of English papers of Class 9th and 10th for academic years 2022-2023. It was also found that the paper pattern of the English papers of Class 9th and 10th was the same. Almost similar questions were asked in both classes. Moreover, it was also found that the proportion of convergent questions was greater than divergent questions in exam papers of Class 9th and 10th for academic years 2022-2023.

Discussions

The findings of the present study indicated that the questioning strategy in exams of class 9th and 10th was similar. In exam questions, the percentages of lower-order and higher-order cognitive levels were almost the same. The proportion of lower-order questions are greater than that of higher-order cognitive levels based on bloom's taxonomy. The results of the present study are in line with the results given by Scott, 2003; Thompson et al, 2008; Jones et al, 2009; Swart, 2010; Omar et al, 2012. The questions which were used in the lower-order reflected the test of memory and understanding of items, not critical thinking. The questions of higher-order cognitive domain demand answers based on reasoning, analysis, synthesis, and critical thinking.

The pattern of exam papers of English of class 9th and 10th encourage rote learning. The results are in consistency with the results given by Koksal & Ulum (2018) that exam questions require a greater number of questions that reflect higher-order thinking. The small proportion of questions of the higher-order cognitive domain of bloom's taxonomy in exam papers of English might be due to the lack of training in assessment literacy as Bibi (2014) describes that questioning technique promotes critical thinking. Excess use of lower-order questions was observed. The use of lower cognitive questions did not accelerate critical thinking in students. Lack of training and poor assessment literacy on the part of teachers was one of the main causes of a poor level of questioning. She recommended that proper planning for asking good and quality questions that lead to critical thinking.

In the present study, it was found that the exam papers have a significantly higher number of questions of lower-order than questions of the higher-order cognitive domain in class 9th and 10th. The results of the present study are the consistency of findings of Ferhat & Smadi (2014). In questions of lower-order cognitive levels, the most frequently appeared level was comprehension level. Bibi (2014) highlighted the lack of knowledge and training about assessment literacy as the main cause of the use of questions that are categorized in lower-order cognitive levels based on bloom's taxonomy. Lack of proper skill in posing effective questioning strategies was one of the main hurdles in the development of critical thinking among students. The results of the study were in line with the findings of Zoller & Tsaparlis (1997).

The study revealed the frequent use of questions related to comprehension level and knowledge level and minor use of questions that are categorized into analysis level and Synthesis level. Questions linked to evaluation did not appear at all. It was found that the pattern of exam papers had a predominantly proper proportion of lower-order cognitive level questions. Exam questions did not reflect various difficulty levels that demand reasoning and critical thinking on the part of learners. The results of the study indicated that higher numbers of convergent questions appeared than divergent questions. The proportion of convergent questions was significantly higher than divergent questions. The findings were in support of the study of Sarwar et al, (2011).

The design of the English papers of Class 9th and 10th might pave the way for the promotion of the lower-order thinking and might make students unfamiliar with questions of higher-order cognitive levels of Bloom's taxonomy that demand answers through reasoning, decision-making, analysis, synthesis, and critical thinking as the share of higher-order questions is very small in exam papers. The results are supporting Ordem (2016) who pinpointed that cognitive development had been an essential element of education. He investigated aspects of critical

thinking and found that lower cognitive levels were mightier than higher cognitive levels among participants because they were trained in the lower cognitive domain, not in critical thinking. Lack of practice and awareness made the students to unfamiliar with critical thinking.

Conclusion

The results of the present study identified the cognitive levels of the exam questions of the English papers of Class 9th and 10th. It was found that the greater part of exam papers of English was covered by questions of Comprehension level and Knowledge level. The most frequently appeared cognitive level is Comprehension level in exam questions of both the classes.

There were fewer variations in terms of the pattern of papers of English in Class 9th and 10th. The results of the study made it clear that the patterns of exam questions of Class 9th and 10th were predominantly covered with questions of lower-order cognitive levels. The findings indicated that only a minor proportion of questions based on higher-order cognitive levels of Bloom's Taxonomy i.e. Analysis level and Synthesis level appeared in exam questions of Class 9th and 10th. The question based on Evaluation level did not appear in any paper of Class 9th and 10th.

It can also be concluded that pattern of exam papers is designed to assess the lower cognitive levels primarily, not critical thinking of students of Class 9th and 10th. The frequent use of lower-order cognitive levels of Bloom's Taxonomy in papers of English promotes rote-learning and memorization. It is obvious from the significantly higher frequency of questions of lower cognitive order that the presence of a huge proportion forces students and teachers to develop the memorization for higher marks as the exam papers of English are overloaded with questions based on lower-order cognitive levels. It is obvious from the significantly huge gap in exam papers of Class 9th and 10th that paper setters designed the papers of English Class 9th and 10th for assessing the lower cognitive levels primarily.

The use of lower-order cognitive domain prepares students to keep more focus on the reproduction of learned stuff rather than to show critical thinking according to the set pattern of exam papers in Class 9th and 10th. The use of small number of questions from higher cognitive domains sets the foundation to give a little bit of attention to critical thinking. The set pattern which is highly based on the lower cognitive domain of Bloom's Taxonomy forces students to accelerate the memorization and feel relax as they have not to do analyse and evaluate a lot of items of exam in Class 9th and 10th. A higher number of questions from the higher cognitive domain can enhance the awareness and critical thinking of students.

Recommendations

In light of the findings of the study, the following recommendations to be taken into account:

- There is a dire need of setting a special and separate board that will frame assessments for achieving the objectives of imparting education.
- There is a severe need of introducing a policy for designing a proper framework to conduct a meaningful assessment.
- A policy should be introduced to conduct training of paper setters and teachers regarding assessment so that objectives of assessment can be achieved.

- Assessment literacy should be part of teacher training in different programs of Higher Education Commission policy regarding education.
- Bloom's Taxonomy should be part of teachers' education programme at all levels so that teachers can assess and develop the cognition of the students themselves before their appearance in any exam. Moreover, there is also a need to make incorporation of Bloom's Taxonomy into teaching parallel to the assessment of students.
- The universe of assessment in terms of developing cognitive and analytical skills among students should be a frame so that students can comprehend and analyse the issues meaningfully. It is recommended that exam papers should be developed for measuring the critical thinking of the students of Class 9th and 10th.
- The items of language assessment should be defined for developing cognitive and analytical skills among students of Class 9th and 10th.

Suggestions for Further Research

The following recommendations for further research have been given in light of findings of the present study:

- A study can be conducted to investigate whether the instructors both teach and assess the students according to the cognitive domains of Bloom's Taxonomy in Class 9th and 10th.
- A study for exploring incorporation of Bloom's Taxonomy into teaching is parallel to the assessment of students of Class 9th and 10th can be conducted.
- Similar research like English for Specific Purposes should be conducted for exploring the cognition of questions.

References

Aftab, A. Sheikh, A., & William, I. (2014). An Evaluation of English as Second Language (ESL) Textbook: Meeting the needs of Pakistani Students. *International Journal of English and Literature, 5(7),* 144-148.

Ahmad, A., Cheema, M. I., & Farhat, P. A. (2023). Exploring Challenges and Barriers Faced by Pakistani Scholars and Researchers in Publishing Their Work. International Journal of Contemporary Issues in Social Sciences (IJCISS), 2(4), 81-90. https://www.ijciss.org/Home/article/119

Ahmad, A., Sanober, R. S., & Cheema, M. I. (2024). ESL Learners Attitude towards Metacognition Approach for Learning Creative Writing at University Level. *Journal of Development and Social Sciences*, *5*(1), 01-14. https://doi.org/10.47205/jdss.2024(5-I)01

Bibi, W. (2014) An Analytical Study of Questioning Leading to Critical Thinking in Classrooms. *International Journal of English and Literature*, 5(7), 144-148. http://142.54.178.187:9060/xmlui/handle/123456789/6565

Bloom, B. S., Engelhart, M. D., Furst, E. J., Hill, W. H., & Krathwohl, D. R. (1956). *Taxonomy of educational objectives: The classification of educational goals. Handbook 1: Cognitive domain* (pp. 1103-1133). New York: Longman.

Broadfoot, P. (2007). *An Introduction to Assessment.* New York: Continuum Intl Pub Group.

Brown, G., Irving, S., & Keegan, P. (2008). *An Introduction to Educational Assessment, Measurement, and Evaluation: Improving the Quality of Teacher-Based Assessment*. New Zealand: Pearson Education. http://hdl.handle.net/2292/38415

Cooper, J. M. (2013). *Classroom Teaching Skills:* International ed. of 10th revised: ed. Belmont, CA: Wadsworth Publishing Co INC.

Demir, M. K., & Eryaman, M. Y. (2012). A Qualitative Evaluation of Instructors' Exam Questions at a Primary Education Department in Terms of Certain Variables. *Educational Policy Analysis and Strategic Research*, *7*(1), 52-63. https://dergipark.org.tr/en/download/article-file/161883

Dikli, S. (2003). Assessment at a distance: Traditional vs. alternative assessments. *Turkish Online Journal of Educational Technology-TOJET*, *2*(3), 13-19. https://eric.ed.gov/?id=EJ1101956

Ebel, R. L. 1979. *Essentials of Educational Measurement.* 3rd ed. Prentice Hall Engle

Freahat, N. M., & Smadi, O. M. (2014). Lower-order and Higher-order Reading Questions in Secondary and University Level EFL Textbooks in Jordan. *Theory and Practice in Language Studies, Vol 4(9*), 1804-1813. https://doi.org/10.4304/tpls.4.9.1804-1813

Habib, A., & Umar, H. (2017). A qualitative inquiry into the alignment of English textbooks with the National Curriculum at secondary level. *NUML Journal of Critical Inquiry, 15(2), 171-185.* https://*786f7d747e8c8ad5ed11abb82ad88228.pdf*

Hughes, A. (2007). *Testing for Language Teachers*. New York, Cambridge University Press

Jones, K. O., Harland, J., Reid, J., & Bartlett, R. (2009). Relationship between examination questions and Bloom's taxonomy. *In Frontiers in Education Conference,* 2009. FIE'09. 39th IEEE. 1-6.

Kalhoro, I. A., Bango, Z. A., Maitlo, S. K., & Soomro, A. R. (2023). The Dynamic Interplay of Linguistic Diversity and Influence on the Speaking Skills of ESL Learners in the Classroom. *International Journal of Contemporary Issues in Social Sciences*, *2*(4), 1237-1248.

Kamlasi, I., Sahan, A., Timor, U., Kefamenanu, K. S., & Timor, N. T. T. (2018). Descriptive analyses on english test items based on the application of revised Bloom's Taxonomy. *Metathesis J. English Lang. Lit. Teach*, *2*(2), 203-210. https://10.31002/metathesis.v2i2.847

Khan, S. (2006) An Evaluation of the Exercises Provided in the English Compulsory Textbook for Class X, *[Unpublished MA dissertation] Faculty of English Linguistics,* University of Karachi.

Köksal, D., & Ulum, Ö. G. (2018). Language assessment through Bloom's Taxonomy. *Journal of language and linguistic studies*, *14*(2), 76-88. https://dergipark.org.tr/en/pub/jlls/issue/43364/527924

Maitlo, S. K., Shah, S. A. A., & Ahmed, A. (2024). Use of Information and Communication Technology (ICT) In Teaching English as a Second Language (ESL). *Journal of Arts and Linguistics Studies*, *2*(1), 1-26. https://jals.miard.org/index.php/jals/article/view/84

Maitlo, S.K., Turmani, GA., & Farhat, P.A. (2023). Comparative Analysis of ESL Learning in Public and Private Sectors at Primary Level in District Khairpur. Global Language Review, VIII(I), 216-227. https://doi.org/10.31703/glr.2023(VIII(I)).21

Nooreen, N., & Arshad, A. A. (2005). Examining the importance of EST and ESL textbooks and materials: objectives, content and form. *Journal of Research and Reflections in Education, 5(2),* 170-190.

Omar, N., Haris, S. S., Hassan, R., Arshad, H., Rahmat, M., Zainal, N. F. A., & Zulkifli, R. (2012). Automated Analysis of Exam Questions According to Bloom's taxonomy. *Procedia-Social and Behavioral Sciences,* 59, 297-303. https://doi.org/10.1016/j.sbspro.2012.09.278

Ordem, E. (2016). Developing Critical-Thinking Dispositions in a Listening/Speaking Class. *English Language Teaching*, 10(1), 50-55. https://eric.ed.gov/?id=EJ1124235

Orlich, D.C., Harder, R.J., Callahan, R.C., Trevisan, M.S. & Brown, A.H. (2004, 2007, 2010) (9th Ed). *Teaching Strategies: A Guide to Effective Instruction*. Wadsworth, Cengage learning.

Razmjoo, S., & Kazempourfard, E. (2012). On the Representation of Bloom's Revised Taxonomy in Interchange Course books. *The Journal of Teaching Language Skills* (JTLS),4(1),171-204. http://jtls.shirazu.ac.ir/article_336_0.html

Riazi, A., & Mosalanejad, N. (2010). Evaluation of learning objectives in Iranian High-School andpre-university English Textbooks using Bloom's Taxonomy. *The Electronic Journal for English as a Second Language,* 13(4), 1-16. https://tesl-ej.org/pdf/ej52/a5.pdf

Sarwar M. Yousaf, M. & Ranjhas, A. (2011) Usefulness and level of Interest in Pakistan National Curriculum Subjects: Secondary School Students Perceptions, *International Journal of Academic Research Vol 3 (1),* 964-969.

Scott, T. (2003). Bloom's taxonomy applied to testing in computer science classes. *Journal of Computing Sciences in Colleges*, *19*(1), 267-274. https://dl.acm.org/doi/abs/10.5555/948737.948775

Swart, A. J. (2009). Evaluation of final examination papers in engineering: A case study using Bloom's Taxonomy. *IEEE Transactions on Education*, *53*(2), 257-264. https://doi.org/10.1109/TE.2009.2014221

Tangsakul, P., Kijpoonphol, W., Linh, N. D., & Kimura, L. N. (2017). Using bloom's revised taxonomy to analyze reading comprehension questions in team up in English 1-3 and grade 9 English o-net tests. *International Journal of Research-Grantaalayah*, *5*(7), 31-41. https://doi.org/10.29121/granthaalayah.v5.i7.2017.2106.

Thompson, E., Luxton-Reilly, A., Whalley, J. L. Hu, M., & Robbins, P. (2008). Bloom's Taxonomy for CS Assessment. *Proceeding Tenth Australasian Computing Education Conference.* In *Proceedings of The Tenth Conference on Australasian Computing Education, (78)* 155-161.

Tofade, T., Elsner, J., & Haines, S. T. (2013). Best practice strategies for effective use of questions as a teaching tool. *American Journal of Pharmaceutical Education*, *77*(7), 155. https://doi.org/10.5688/ajpe777155

Wiggins, G. (1994). Toward more authentic assessment of language performances. *Teaching, Testing, and Assessment: Making the Connection*, 69-85.

Wood Cliffs. p. 194,197-199.

Wragg, E. C. (1984). *Classroom Teaching Skills: The Research Findings of the Teacher Education Project.* London: Croom Helm Psychology Press.

Zoller, U., & Tsaparlis, G. (1997). Higher and lower-order cognitive skills: The case of chemistry. *Research in Science Education*, *27*, 117-130. https://link.springer.com/article/10.1007/BF02463036