Evaluation of MA English Question Papers at Cognitive level: Application of Bloom Taxonomy

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Abstract

Intellectual abilities enable one to make the right decision and solve the real-life problems, which are essential for the development of state and society. The present study examines the question papers of M.A English at Punjab University at cognitive level. Bloom's taxonomy is used as a tool for the analysis. Triangulation method was followed to enhance the reliability of results. The difficulty level of each question was determined from the keywords found in the questions. Within an annual system of Pakistan, evaluation is conducted in two parts (part1 and part 2). The population of this study questions in the annual examination papers and sampling is the questions in Punjab university' MA English papers (part 1 and part 2). The main objective of this research is to reveal: which level of Bloom's taxonomy is more frequent in the Punjab University's MA English questions papers. The aim of this study highlights how much examiners are trained to assess learner's knowledge, attitude, and skills. This study is significant for the teachers, students, examiners, educationists, and the whole education system. The findings indicate that examiners focused on the lower order thinking skills questions rather than higher-order cognitive skilled questions. The research concludes the current relationship between a student's performance and learning outcomes.

Key words: Cognitive domain, critical thinking levels, MA English, Examination, papers, Bloom's Taxonomy

INTRODUCTION

Assessments are used to gather, record, interpret and communicate information about a child's progress and achievements during the development of knowledge, concepts, attitudes, and skills. (NCCA, 2004). Kaur (2018) states that one main tool to evaluate the students skills is the question paper, and therefore, question paper should be valid and reliable. Sreekanth (2015) indicates that there is variation in the question paper, their setting, marking system etc. Faculty should be trained to set the question paper testing the Higher Order Thinking Skill of the students, rather than asking students to recall the previously learned information to encourage student's critical thinking and creative ability (Narayanan et al., 2015).

Bloom (1965) devised a hierarchy that commonly occurs in an education system, which is used for the categorization of abstraction of questions to assess learning. This classification is known as Bloom's Taxonomy.

According to Bloom, Cognitive domain is helpful in improving the intellectual skills. Awareness of specific facts, understanding, investigation, creativity and decision making are used to enhance intellectual skills. Bloom introduced levels of the cognitive domain that begin from the fundamental level to the most complicated level. The six educational objective levels are knowledge, comprehension, application, analysis, synthesis, and evaluation. These levels are also called levels of difficulties, one should master first ones before the next ones take place. Cognitive abilities are arranged on a continuum from lower to higher level, knowledge level creates the basic foundation from which higher level skills are built. Blooms Taxonomy gives a particular guideline to create a question paper to assess the students at different levels.

In order to examine critical thinking of the learners, imperative rules are helpful to categorize the questions

according to the difficulty level. The consequences of this system (Application of Bloom Taxonomy) can be used as a guideline by the designer of the exam paper. This study is helpful in investigating the current style of MA English exam papers . The findings are used to set the paper according to MA level by the paper setter. Bloom's taxonomy can be used to promote the teaching system as well, such as which kind of teaching methodology should be adopted to enable the students to be examined accordingly.

The study explores the cognitive level of questions used at the master's level in Pakistan with reference to Bloom's Taxonomy. The Policymakers, Educators, and Researchers may use the awareness as fundamental data for the future. The contribution of this study is to the current knowledge about the cognitive domain of assessment questions in MA English papers from Punjab University. Consequently, this may be beneficial for the society with the suggestion that examination questions should consist of higher order thinking skills at Mater's Level. The study may support curriculum designers to improve the curriculum and examiners to improve question papers.

RESEARCH QUESTIONS

1.   How do the examiners of Punjab University classify the level of evaluation for MA English examination papers?
   I.   How much examiners follow Bloom's Taxonomy in preparing examination paper?
  II.   What features do examiners use in making a question to test student's cognitive level in the light of Bloom's Taxonomy?
2.   How do MA English previous papers present the image of Lower order thinking and higher order thinking of the learners?

I. Is there a balance between lower order thinking and higher order thinking questions at master's level in Punjab University?

LITERATURE REVIEW

The method to evaluate the quality of evaluation through question paper should be awarded, Bloom's taxonomy is useful to train the examiners. Swart, et al., (MAY 2010) investigated with the help of Bloom's Taxonomy, the dissimilarity among lower order thinking skills and higher order thinking skills in questions, within similar concept such as an evaluation at shallow and deep level. The findings show that examination papers highly consist of the level "Application" where students are supposed to use mathematical equations. The present research highlights the examiners' main focus was to evaluate the students at lower order thinking skills in academics of Electronics to set the questions according to lower order thinking skills.

Evaluation includes the assessment of student's performance to assess learner's intellectual skills as Bloom introduced a hierarchical modal, as Sivaraman and Krishna (SEPTEMBER 2015) explore the features of Bloom's Taxonomy used in the examination system, further demonstrating the methodology which has been adopted by the assessment office to map the questions to assess students' cognitive skills. The results of this research show the necessity of Bloom's classification for evaluation serve as guidelines for the staff to outline the question paper. It is fair to conclude that, external examiners review their question papers and comment positively on preparing examination question paper, Bloom's Taxonomy is helpful for the college staff in pointing out that assessment criterion or question papers must be explicit, clear, framed in a language that is meaning full for teachers and learners.

Primary level is the foundation of education, this level is marked as significant for the thinking development but Demir and Eryaman (2012) examine the instructors' exam questions at the Primary level, the comprehensibility of instructions and the questions' appropriateness to the critical thinking. The aim of this study is to highlight the most frequent level of evaluation used in the examination questions in the light of Boom's Taxonomy. The findings of the study indicate that the main focus of the examiners is to check the awareness of students about specific facts, which is not appropriate to assess students' critical thinking.

Examiners should be highly trained to evaluate student's critical thinking or higher order thinking skills, but Shah, et. al (2013) investigated that lower level cognitive skills were the main focus of the bachelor program of Punjab University. The examination questions in the Bachelor program between (2001-2010) consisted of all the six levels of evaluation introduced by Bloom. Cognitive levels with questions at the lower level used more frequently than higher cognitive level questions.

RESEARCH METHODOLOGY

Research Design and method

Mixed method approach was adopted for the analysis of the question papers 'MA part 1 and part 2' of the Punjab University. Text analysis was used to get the results by Antconc software 3.4.4w, and the application of Bloom's Taxonomy. The study highlights the Paper pattern set by Punjab University's examiners for M.A English.

Population and sampling

The population of this research is the question papers of the annual examination system. Punjab University's MA English question papers are used as sample. Total 215 questions were
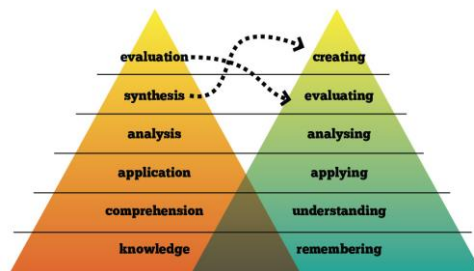
analyzed at MA level (part 1 & part 2) during the sessions 2012-2017.

Instrumentation and Data Collection Process

To show the authenticity of the results in the present study, the researcher used four tools such as OCR, MS Word, Notepad, Antconc 3.4.4w. Data collection is an important part of any research. To make data valid and reliable, Step 1 of data collection was to download the scanned final papers of MA part 1 and Part 2 during the session (2012-2017) from the online web. Step 2: Clear the data from all other unnecessary text. Step 3: OCR the text and converted the text into word and then the word to notepad. Step 4: upload the text into Antconc 3.4, 4w. Step 6: Find out the frequencies of action verbs that specify the category of the question according to Bloom's Taxonomy. 7 and the last step conducted as a statistical average formula to get the percentage of each level of Bloom's Taxonomy in question papers.

Data Analysis

Bloom (1965) formulated a classification of "the goals of the educational process". Eventually Bloom established a hierarchy for categorizing the level of abstraction of question that commonly occur in educational setting. The following are six levels in the Bloom's Taxonomy: Knowledge, Comprehension, Application, Analysis, Synthesis, and Evaluation.

Anderson and Krathwohl (1990) revised Bloom's taxonomy, they arranged Lower Order Thinking Skill to Higher Order Thinking Skill.

When writing educational objectives, a teacher must know that for a good objective, it is necessary to use the clear verb that clearly indicates the type of observable behavior.

Learning Objectives and Action Verbs

Learning objectives/Levels	Description	Action verbs
Knowledge	Recall or recognize the previously learned information	To define, to describe, to identify, to list, to label
Comprehension	Understanding of learned information	To choose, to explore, to classify, to discuss
Application	Application is the use of knowledge	To apply, to demonstrate, to develop
Analysis	The students examine, classify, hypothesize, collects data, and draws conclusion	To analyze, to categorize, to compare, to conclude, to develop, to distinguish, to determine
Synthesis	Synthesis is a creative act	To arrange, to assemble
Evaluation	Evaluation is judgment or decision making.	To appraise, to argue, to attach, to choose, to contrast

Mixture of questions used in the Papers at MA level of Punjab University, such as long essay writing, comprehension, discussion, evaluation, analysis , interpretation, comparison , contrasting, examining and explanation of questions. Comprehension are more prevalent in both parts of the MA English exam papers.

For the academic year 2013, thirteen (13) papers were selected for analysis . The papers of Part 1 and Part 2 have 38 questions

Part 1 papers contained seventeen (17) questions. Only Comprehension level was used in the Part 1 papers at MA level. All of the other five levels were completely missing.

Papers of PART 2 have twenty-five (25) questions. 4% questions were knowledge based, 84% of comprehension, 8% of the analysis level, and 4% to examine the evaluative ability of students. The levels of synthesis and application were absent.

For Academic session 2014, thirteen (13) papers with twenty questions were used to analyze. The analysis of the Part 1 papers exposed that 75% of the papers consisted of comprehension level, 8% knowledge level and only 16% on analysis.

In the paper of part two, twenty (20) questions were analyzed. Knowledge took 14%, 76% comprehension and analysis was 9%. The remaining, application, synthesis and evaluation levels were omitted in the papers.

In 2015, the examiners set the papers with the main focus on comprehension level. Total Thirteen papers from both Parts were carefully chosen to analyze. The paper for PART 1 consisted of fourteen (14) questions. The papers of part 1 had 7% questions that were knowledge based , 85% of the comprehension level and application objective was 7%. Other three levels were absent.

Part two papers listed fourteen (14) questions. The papers of PART 2 were divided into 7% knowledge level, 78% comprehension level, and analysis level 14%. Application, Synthesis, and evaluation levels were totally omitted.

For the year 2016, twenty-five (25) papers were analyzed. PART 1 papers focused on 87% comprehension level and only 12% of analysis level. The levels of application, synthesis, and evaluation were absent.
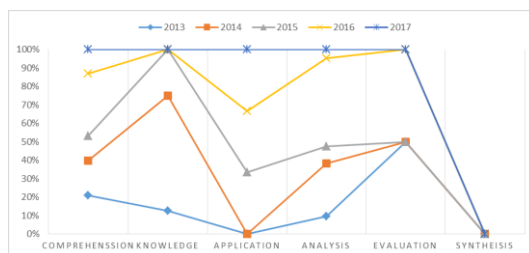
Part 2 papers took the lead with 78% comprehension level, 3% application level, 15% analysis level and 3% evaluation level. Synthesis and knowledge levels were given no prominence.

In 2017 eleven (11) papers were selected to be analyzed. In the part one papers, comprehension level was the major

focus that formed the 80% of the paper, application and analysis levels with the same percentage of 10.

In the PART 2 papers, the focus remained again, only on the comprehension level. 100% of the papers were related to the comprehension level. Other levels of Knowledge, application, analysis, evaluation, and synthesis were found missing.

The below figure shows the division of six levels in MA part 1 and part 2 past papers from the Punjab University. The graph shows that the questions used to analyze the learner's understanding (comprehension level) have been given the greatest importance which is followed by investigation, classification, hypothesize or analysis level. Recognition of information (knowledge) and use of knowledge to solve the problem (application) had less prominence, while synthesis and evaluation. Levels were missing in all the papers that show that teachers or paper setters need to be trained to organize paper in order to fix principles of Bloom's Taxonomy. Overall, the paper setting was only focused on the lower levels of evaluation.

Graph 1: Clear Classification of Evaluation levels in MA Papers from Punjab University (2012-2017)

Masters' papers of Punjab University had the variety of questions in the annual examination of Part 1 and Part 2, such as explained with the reference to the context, long essays, explain with the reference to the context and many others. According to the findings of this research, five levels of cognitive functions of Bloom's Taxonomy were obvious in question papers. In Part 1 papers, comprehension level

comprises: 84%, knowledge: 2.67%, application: 1.78%, the analysis: 10%, evaluation and synthesis level was totally absent. Part 2 papers consisted of Comprehension: 79.43%, knowledge: 2.67%, application level: 0.93, analysis: 13.08%, evaluation: 1.86% and synthesis level was found missing.

Azer (2003) states that MCQs are very helpful in developing analytical thinking that enables examiner to assess the integration of knowledge, application of knowledge and problem-solving skills. Punjab University's examiners neglected this point to analyze the cognitive ability of students.

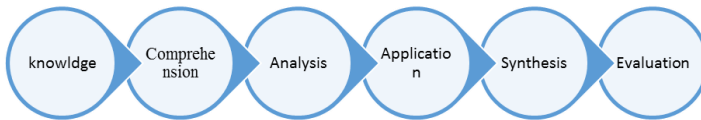## Elements or Action verbs Used to build a question

The examiner must know that for a good objective, it is necessary to use clear verb. The following is the list of action verbs that are used to state the objectives of the particular level.

MA PART 1			MA PART 2		
Level	Word	Frequency	Level	Word	Frequency
Knowledge	Describe	2	Knowledge	Describe	4
	Define	1		Relate	1
Comprehension	Discuss	77	Comprehension	Discuss	60
	Explain	14		Explain	22
	Interpret	1		Interpret	1
	Compare	3		Respond	1
Application	Develop	1	Application	Develop	1
	Illustrate	1	Analysis	Analyze	5
Analysis	Analyze	4		Differentiate	1
	Contrast	2		Examine	6
	Examine	3		Evaluate	2
	Evaluate	2	Synthesis	NA	0
Synthesis	NA	0	Evaluation	Consider	1
Evaluation	NA	0		Value	1

The action verb 'discuss' and 'explain' were more frequently used in Part 1 and Part 2 Masters' papers set by Punjab University's examiners. Other elements such as 'value, analyze, differentiate, contrast, evaluate, illustrate, examine, develop, describe, relate, define and interpret' had medium appearance.

Levels of difficulty with the mixture of different questions might result in the learning at lower level thinking skill and higher order thinking skill. A paper must contain a combination of lower order thinking ability and higher order thinking skills (Darwazeh, 2014). Students with lower order thinking skill will perform well in the lower level questions and the students with higher level thinking skill will perform well in the questions focusing on higher level questions.

Masrur, et al (2017) claimed that cognitive abilities in Bloom's Taxonomy are arranged on the continuum from lower to higher. Knowledge level is the basis for the foundation from which higher level skills are built.

The previous papers of MA Part 1 and Part 2 set by Punjab University, focused on the Comprehension level followed by analysis. The knowledge level was less prominent, the application and evaluation levels were least prominent. The Evaluation level was present in the MA Part 2 papers, but was missing in Part 1. The questions to evaluate student's creative ability were totally missing in both parts.

According to the results of this study, four levels of the cognitive domain in Bloom's classification of evaluation were evident in the exams questions (knowledge 3.72%, comprehension 83.72%, analysis 10.23%, application 1.39%, evaluation 0.93% and the level Synthesis was completely missing).

This particular study showed a major distinction between lower order thinking skills (88.83%) and higher order thinking skills (11.16%). The examiners or paper setters or evaluators ask eighty to ninety percent of the questions at the lower objective of the cognitive domain (Azer, 2003). The

examination paper setter should use complex questions at the MA level, which involves the development of intellectual abilities and skills, not just the skill of understanding about the information. In accordance with the consequences of this study, the examiners used the questions which less demanding in intellectual ability.

To set the question papers, examiners are in a need to get training to evaluate the learners according to their level and to judge their critical thinking. Furthermore, they must adopt a particular taxonomy of evaluation that may help to improve evaluation and assessment system, making examiners capable of judging the validity, and papers well structured.

CONCLUSION

This study indicates that Punjab University's examiners at MA level set the question papers by asking questions that judge learners' understanding about the information, their major intention was to analyze the lower level cognitive skills of students. The questions used in the MA program between (2012-2017) consisted only of four cognitive levels. Evaluative cognitive level questions were used in only MA PART 2 papers with minimum frequency. Action verbs that show the level of criticality in question, used in the question papers of MA English by Punjab University, action verb 'discuss' has high occurrence (137 frequency in both parts) and explain was used 36 times. Frequency in both parts of MA English, 'Discuss' element was 77 times in part 1 question papers and 60 times in part 2 papers while action verb 'explain' occurred 14 times in part 1 and 22 occurrences in part 2 question papers of MA English by Punjab University . Comprehension level of criticality was more frequent in both parts of MA English, the analysis level was less frequent. Totality showed that knowledge level was 3.72%, comprehension level 83.72%,

application level 10.23%, analysis level 10.23%, evaluation level questions were 1.39% and the creative level was with zero occurrences. The Synthesis level has not been presented in both parts. The evaluation of higher order thinking skill is still missing. A change must be there, to set a paper in a continuum from lower to higher order thinking skill.

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