

**INVESTIGATING THE EFFECTS OF BANGLADESH AND GLOBAL STUDIES
(BGS) ASSESSMENT OF SECONDARY SCHOOL CERTIFICATE (SSC)
EXAMINATION ON STUDENTS LEARNING**

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ABSTRACT: *The study determines to find out the present situation of Bangladesh and Global Studies test items/creative questions in Bangladesh. This descriptive study was conducted using a concurrent triangulation research design. To conduct this study both quantitative and qualitative data were collected. 16 test of Bangladesh and Global Studies test items/creative question papers of 2015 or 2016 were selected purposively as a sample from all educational boards. Bangladesh and Global Studies curriculum were analyzed to find out the major skills reflected through the curriculum. 48 students were selected conveniently for an interview from those who had been passed the SSC examination of 2015 or 2016. For collecting data from these sources, test analysis protocol, the curriculum content reading protocol and interview protocol were used as research tools. Test analysis protocol consisted of two criteria; wording criteria and practising criteria. Selected test items were analyzed based on these two criteria and Bloom's cognitive domain. The study revealed that there was an imbalance in wording criteria and practising criteria of test items. SSC examination test items didn't reflect the major skills of the curriculum appropriately. Most of the test items promoted students lower level learning and ignored higher level learning.*

KEYWORDS: Bangladesh and Global Studies, Examination, Assessment, SSC, Curriculum, Secondary Education

INTRODUCTION

Students' learning is always been the main focus for any education system. There is a bridge between assessment and students learning. Assessment involves collecting and interpreting evidence of students' learning (Goos, Stillman & Vale, 2007). According to the National Education Policy of Bangladesh (2010), assessment is "a regulatory system through which the success of a student in achieving the comprehensive goals of education is measured" (p.51).

Various tools are used for assessing a student's learning. Questioning is the most dominating mechanism for assessing students' achievement in the formal education system of Bangladesh. In Bangladesh, the system of education has always been guided by curriculum although the system only covered learners' ability of memorization and comprehension skills. (Begum & Farooqui, 2008). In order to decrease rote learning, two major reform steps have been taken in the arena of secondary school assessment system at 1990 and 2006. One is multiple choice questions (MCQ) along with essay type tests to ignore the limitation of the boring essay type

syllabus and another is School-Based Assessment (SBA) system. But due to some faults, these steps were not as successful as it was expected.

Blooms Taxonomy is a way of distinguishing the fundamental questions within the education system. It is named after Benjamin Bloom, who chaired the committee of educators that devised the taxonomy in 1956. The taxonomy can be used as a teaching tool to help balance assessment and evaluative questions in class, assignments and texts to ensure all orders of thinking are exercised in student's learning (Bloom, 1956). The structure of creative question is fixed to reduce the memorization tendency of students and inspire them to understand so that they can apply or evaluate it in any situation. In order to improve the assessment system, the government of Bangladesh has introduced a new assessment system named creative question in SSC 2010 which is mainly derived from Bloom's taxonomy.

Creative question is a new dimension in the assessment system of Bangladesh. To reform the examination system, the government of Bangladesh in collaboration with Asian Bank, undertaken the project called Secondary Education Sector Improvement Project (SESIP). To enhance the validity and reliability Skill-based Structured Question was introduced in the Secondary School Certificate (SSC) Examination. The structured question was named as creative Question Creative question follows four parts- Knowledge, Understanding, Application and Higher order thinking which includes the higher order skills: analysis, synthesis and evaluation.

Creative question is generally used to measure students' different skills. The main focus of creative question was to reduce the memorization tendency as well as make the students more creative (Rahman, 2010). SSC examination of Bangla 1st paper and religion subject were first held in creative question system in 2010. From 2011 all subjects except Math, English and Bangla 2nd paper were held in creative question system.

A quality education suggests using all the sub-domains of cognitive domain of Blooms Revised Taxonomy in all subjective and objective questions in all the subjects of secondary level (Naomee & Tithi, 2013). But Gall (1970) showed that about 60% questions in all subject areas are recall based. Moreover, the majority of SSC questions (over 90%) were found to be capable of demanding recall or knowledge-based learning (Begum & Mullick, 2005). Additionally, Hossain (2009) found that students' were also facing difficulties with the creative questions as creative questions discriminate between good students and weak students. While weak students found the questions more difficult, good capable students coped with new question papers without any difficulties. So, After implementing the new system of the creative question, it is very necessary to explore whether the test items are really being prepared according to the hierarchical learning orders of Bloom's taxonomy or not. This study is a little endeavour to explore to what extent these test items engage students in actual learning.

Statement of the problem

Students' learning is heavily shaped by assessment approaches. It is the assessment that suggests what is important to the students and how students spend their time (Santhanam, 2002). That is students' learning is closely linked to assessment as Gipps (1994) suggests that "There is a relationship between assessment and the way in which subject matter is presented in teaching: this in turn affects-through the tasks in which pupils engage-what and how pupils learn" (p. 18). Therefore, the quality of learning depends on the quality of assessment (Khan, 2012). Effective assessment tools or tests are responsible for effective learning. For secondary students, taking part or participating in SSC examinations is crucial. Successful completion of SSC examinations, make students eligible for higher secondary education or competent person for employment (if anyone wants to terminate further formal education). Therefore it is important that the SSC tests are appropriate assessment tools for effective learning. Research indicates that tests usually play a limiting role for students' learning as the tests mainly focus on cognitive dimensions of learning ignoring other skills (NCTE, 2014). In Bangladesh majority of SSC test items were appropriate for assessing lower level cognitive learning (Ahmed, 2002; Begum & Ahmed, 2007). That is, with regard to Bloom's taxonomy of learning, the examination test items are merely able to assess remembering, understanding and application ability (lower order learning) rather than the ability to analyze, evaluate and synthesize (higher order learning). It is argued that in order to cope up with the SSC examinations, secondary students usually memorize and reproduce a lot of learning materials (Ahmed, 2002). As reported by Ahmed (2002) also found that more than 90% questions in SSC level are recall based.

There are three domains of educational objectives, which are: cognitive, affective and psychomotor. Cognitive domain mainly emphasizes remembering or reproducing information, which has been learnt. This domain is knowledge or mind based. Affective domain emphasizes feelings and emotion. It also deals with behavioural aspects and beliefs. Psychomotor deals with the manipulation of materials and objectives (Anderson & Krathwohl, 2001). As questions are the most used tool for evaluating students' learning, Bloom's Taxonomy has a vital role in patterning questions and in assessing students' knowledge, attitude and skill. Since 2011 a change was introduced in the questioning pattern of SSC examination of Bangladesh and Global studies (BGS) subject. The new questioning consists of multiple-choice items and creative questions. The purpose of new assessment questioning was to improve students' learning by reducing memory-laden questions and increasing critical thinking or higher level questions, especially, based on Bloom's sub-domains of cognitive learning (SESDP, 2010). Therefore, it is crucial to investigate whether a new pattern of questioning is aligned with the purpose stated above.

The standard of the questioning pattern must be assessed for measuring the curriculum's outcome properly as well as measuring students' level of learning. The main objective of preparing curriculum is to develop students' knowledge, attitude and skill. So, the assessment should be designed focusing on the curriculum's goal. This study aimed at investigating the

new SSC examination questioning pattern of BGS subject following Bloom's framework of cognitive learning. The aim of the study is to examine the item's wording or action words as well as the corresponding actual practice of learning in attempting the item with respect to the secondary curriculum.

Research Purpose and Question

The main purpose of the study is to examine the quality of SSC examination questions of Bangladesh and Global Studies (BGS) subject based on Bloom's taxonomy as well as the relevant skills suggested for BGS subject in the curriculum.

In order to satisfy the purpose of the study, three research questions were addressed:

1. How do the wordings of BGS in the SSC questions mirror the potentiality of assessing different levels of cognitive learning?
2. To what extent the wording of BGS SSC questions actually engages students with different levels of learning domain?
3. To what extent the BGS SSC questions are dedicated to assessing the major BGS learning skills as defined in the curriculum?

LITERATURE REVIEW

Definition of operational Terms

a) Wording Criteria: It is the criteria of a test item that points to the verbatim meaning of the language used in the item of the content. It represents the nature of the verbs or language of the item (action verb). It means what kind of learning is been demanded by the test items. The surface structure of an item gives a clear conception about the action verb to the reader which is recognizable.

b) Practising Criteria: Practising criteria is the actual learning process in which learners are engaged in reality to respond to the task demanded by the test items. It indicates the current practice of creative question in SSC examination. It indicates that what a student has to do for answering an item, like recalling or memorizing, understanding or higher order learning.

Purpose of Assessment

Assessment is one of the most important components of teaching and learning. If the assessment is done effectively, it can improve students' performance significantly (Black & William, 1998). Rawntree (1987) pointed out six arching purposes of assessment. The purposes of assessment are – selection by assessment, maintaining standards, the motivation of students, feedback to students, feedback to teachers and preparation for life.

According to the National Education policy of Bangladesh (2010), "The aims and objectives of examination and evaluation are:

- To initiate a creative method that seeks to evaluate the students' acquisition of the course contents and not rote learning;
- To formulate regulation to prepare some uniform strategies to determine the methods and levels of examination and evaluation;

- To prepare rules and principles of developing textbooks and paper-setting to facilitate proper evaluation and suggest ways of easy comprehension that are applicable both to the paper setters and examinees and to make them aware of those.” (p.51)

Bloom’s Taxonomy of Educational Objectives

Taxonomy is the science of Classification. Usually, it deals with the study of identifying, grouping and naming of content. Originally taxonomy refers to Classification of organisms, things or concepts as well as to the principles underlying such a classification (Clausewitz, 1982 cited in Tujjahan, 2017).

Blooms Taxonomy is about the classification of the goals of educational objectives. It was expected that it will be of general help to all teachers, administrators, professional specialists and research workers who deal with curricular and evaluation problems. American psychological association has first formed the idea of this type of classification in 1948. As educational objectives provide the basis for building curriculum and tests and students learn on the basis of the curriculum and test, a theoretical framework must be obtained through a system of classifying the goals of the educational process. For this objective, they were motivated. The committee then organized and wrote the various portion of the “cognitive” part of the taxonomy. Then they developed the “Affective” part of the taxonomy (Bloom, 1956).

There are three main parts in Bloom's taxonomy of educational objectives. They are

- a) Cognitive Domain
- b) Affective Domain
- c) Psychomotor Domain

Cognitive domain: Cognitive Domain deals with a person’s ability to process and utilize information in a meaningful way. It mainly relates to recall and recognition of knowledge as well as the intellectual development of skills and abilities. It proceeds to divide cognitive objective into subdivisions from the simplest behaviour to the most complex. This domain is mostly emphasized in most recent. It is the domain in which most of the work in curriculum development has taken place and where the clearest definitions of objectives are to be found phrased as well as descriptions of students’ behaviour (Khatun, 2012).

Bloom, Engelhart, Furst & Karthwohl (1979) described six parts of the cognitive domain. A hierarchy of six levels is shown in table 1.

Table 1. *Cognitive Domain of Learning*

Major Categories	Description	Key Words
Knowledge	Remembering previously learned material, from specific facts to complete theories, but all that is required is a recall. That is ability to recall previously learned material.	Defines, describes, identifies, knows, labels, lists, matches, names, recalls, recognizes, reproduces, selects, states.
Comprehension	The ability to grasp or construct meaning from the material. (Lowest level of understanding).	Comprehends, converts, defends, distinguishes, estimates, explains, extends, generalizes, infers, interprets, paraphrases, predicts, rewrites, summarizes, translates.
Application	Ability to use learned material, or to implement material in new and concrete situations.	Applies, changes, demonstrates, discovers, constructs, manipulates, modifies, relates, operates, predicts, prepares, and solves, uses.
Analysis	Separate concepts or material into component parts and show relationships between parts. Distinguish facts from inference.	Analyses, compares, contrasts, differentiates, discriminate, identifies, illustrates, infers, and separates.
Synthesis	The ability to put parts together to form a coherent or unique new whole, with an emphasis on creating new meaning, structure or relationships.	Categorizes, combines, compiles, composes, creates, designs, explains, modifies, organizes, plans, relates, and revises.
Evaluation	The ability to judge the worth of material against defined or stated criteria	Appraises, compares, concludes, contrasts, criticizes, defends, describes, explains, discriminates, evaluates, interprets, justifies, relates, summarizes.

Note. Adapted from *Taxonomy of educational objectives: The classification of educational goals*, Handbook II: Affective domain by D. R. Krathwohl, B. S. Bloom and B. B. Masia, 1964, New York: McKay Company.

Creative Question

Creative question is generally considered as a tool to measure students' various levels of cognitive learning. It is used to expand students' thinking in depth, to encourage students' curiosity and to enhance their motivation to inquire. The questions cover a range of cognitive skill, i.e. knowledge, comprehension, application and the group of skills referred to as higher abilities; such as analysis, synthesis and evaluation (Hossain, 2009). It was introduced as Skill-based Structured Questions (SQ) in the Secondary School Certificate (SSC) examination to enhance its validity and reliability. Finally, the Structured Question was then renamed as Creative Question (Hossain, 2009).

Characteristics of Creative Question

The question should start with an introductory statement followed by original imagery or a brief paragraph which cannot be taken from textbook and this part is called stem. For every creative question, there are 10 marks. Under every stem, it will then follow questions in four groups (NCTB, 2012; Rahman, 2010). The stem should follow some rules-

- a) The stem should be unique, it should not be direct from the textbook.
- b) It should be related to textbooks content.
- c) The stem should be interesting and make students curious.

If questions can be answered without stem, then the stem is not properly constructed (NCTB, 2012). Under every stem, there are four questions. These questions should assess four different skills. This is introduced based on Bloom's taxonomy / Anderson's modification (Malek, Begum, Islam & Riyad, 2012). These four parts are given below hierarchically:

- (a) Knowledge, (b) Comprehension, (c) Application, (d) Higher order skills.

Descriptive Question (60% marks) i.e. essay type creative question (CQ) is prepared to maintain a structure. Each CQ has two major parts: (a) a Stem and (b) a set of four questions. The questions are arranged hierarchically following Bloom's taxonomy of cognitive learning. Table 2 represents the marks distribution of creative questions from lower order to higher order learning.

Table 2. *Structure of creative question*

Skill	Marks
Cognitive	01
Understanding/Comprehension	02
Application	03
Higher Ability	04

Note. Adapted from Ministry of Education: Training module, Social Science and Geology, SESDP, Bangladesh.

MCQ questions will cover 40% of the marks, where each item will contain 1 mark. All MCQ items need to be content and skill-based and cover the whole curriculum. Table 3 represents the marks distribution of multiple choice questions from lower order to higher order learning.

Table 3. *Structure of MCQ question*

Skills	Percentage
Knowledge level	30-40%
Understanding level	30-40%
Application level	10-20%
Higher order level	10-20%

Note. Adapted from Ministry of Education: Training module, Social Science and Geology, SESDP, 2010, Bangladesh.

Major skills from Bangladesh and Global Studies Curriculum

There are three major skills or learning areas in Bangladesh and Global Studies curriculum. They are

- a) Content knowledge skill/Cognitive Skill
- b) Social attitude
- c) Social skill

METHODOLOGY

Research Design and Sampling

This is a descriptive study which was conducted using a concurrent triangulation research design. Under this design, both quantitative and qualitative data were collected and analyzed concurrently emphasizing the quantitative one. Data was collected from two sources; one source was public examination question papers and the other source was students who participated in the SSC examinations held in 2015 and 2016. SSC examination question papers of Bangladesh and Global Studies were administered in the year of 2015 and 2016 for the candidates of eight Education Boards in Bangladesh. The education boards are known as Board of Intermediate and Secondary Education (BISE). They are Barishal BISE, Dhaka BISE, Cumilla BISE, Chattogram BISE, Dinajpur BISE, Jashore BISE, Rajshahi BISE and Sylhet BISE. A total of 16 question papers, one from each BISE and each year were chosen purposively. Each question paper can be divided into two major sections. In section one, a set of 40 multiple choice questions (MCQs) and in the second section a set of nine Creative Questions (CQs) are included. In this study, both types of questions were considered a unit of analysis. A sample of 48 students was selected conveniently from those who were passed in their SSC examinations (that included Bangladesh and Global Studies question papers as well) either in 2015 or 2016. The students were located conveniently from six intermediate colleges from Dhaka district.

Instrumentation

Three instruments were used for collecting the necessary data. They include –

- (a) Question-wording classification protocol: This protocol was used to classify the wording used in each question of Bangladesh and Global Studies subject. The protocol followed the Bloom's taxonomy of cognitive learning. The classification protocol was applied to each item of the sampled Bangladesh and Global Studies SSC question papers for deciding about the item's demand on students' levels of learning following Bloom's taxonomy of cognitive learning.

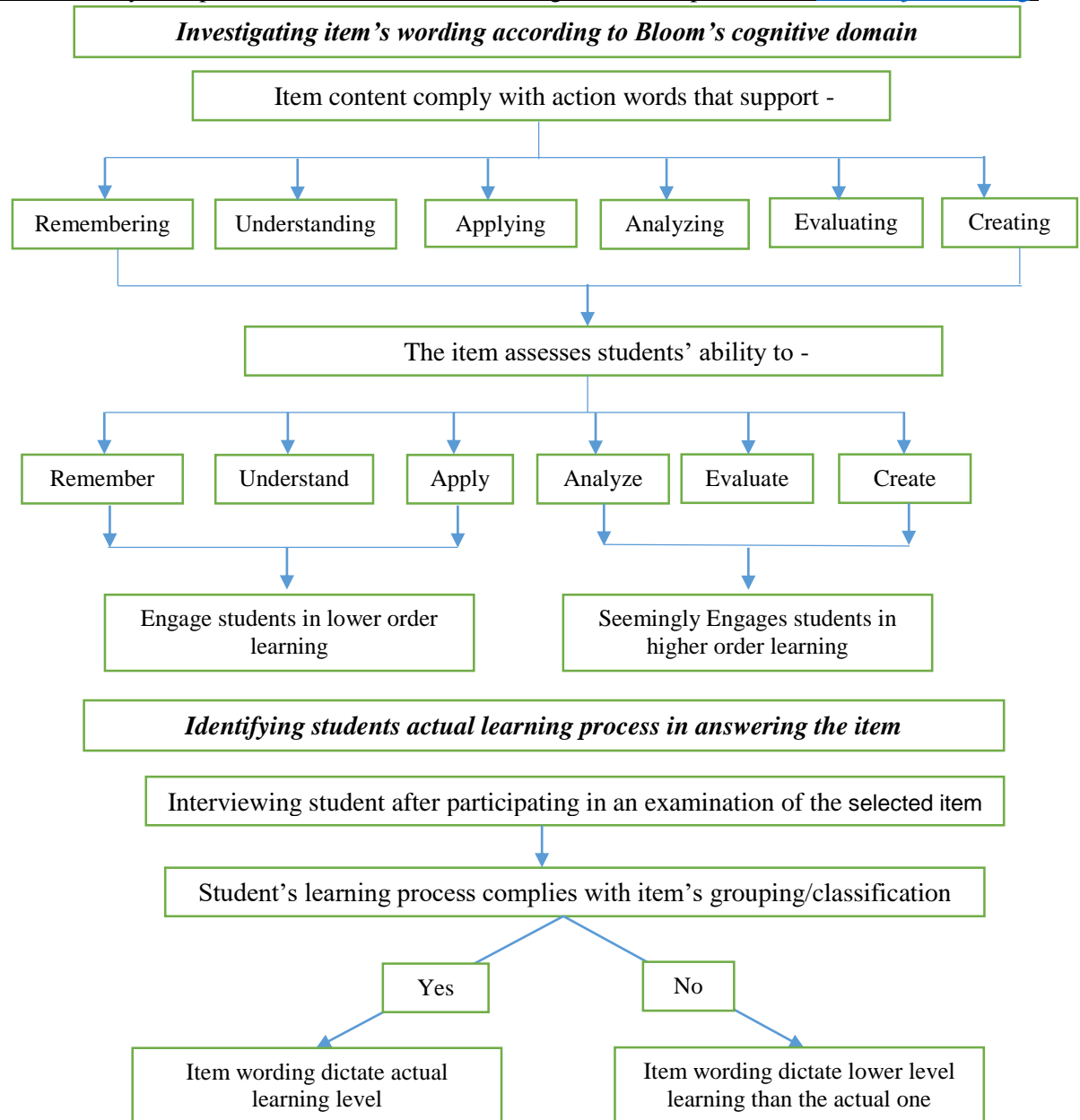


Figure 1. The decision making process of an item's ability to assess different levels of learning based on Bloom's framework

(b) Semi-structured interview protocol: A semi-structured interview was conducted with students on the answering process of selected questions followed by their answering activities on selected questions. This generated qualitative data by identifying students' actual learning practice encouraged by the SSC examination questions. This semi-structure interview schedule consists of 22 questions regarding the actual practice of creative questions. 576 test items (16 question papers; every question paper consists of 36 items) was administered on 48 students. Each of the question papers was given to three students to answer in the fixed time. After taking the test, students were asked for the interview questions.

(c) Curriculum content reading protocol: A curriculum content reading protocol was employed to identify the distribution of curriculum learning objectives in different sub-domains of Bloom's cognitive learning. This protocol followed Bloom's taxonomy of cognitive learning.

The Bangladesh and Global Studies curriculum selected for this study was published by NCTB in 2012. According to the curriculum, there are three basic skills or learning area for BGS learners. They are content knowledge skill, social attitude and social skill. Cognitive skill was classified by the sub-domains as remembering, understanding, application, analyzing, evaluation, creation. Chapter wise learning outcomes of the BGS textbooks was also mentioned in the curriculum. The learning outcomes were analyzed based on the mentioned major skills focused on the curriculum.

(d) Intercoder agreement: To examine the reliability of the data obtained through question-wording classification protocol, coding consistency was examined by calculating inter-coder agreement. Inter-rater/coder agreement is the extent to which more than one coders assign exactly the same code/rating to each object being coded or rated (Tinsley & Weiss, 2000). According to Lavrakas (2008), intercoder reliability is critical for objective and valid interpretation of data. A high inter-rater agreement indicates that the coders or judges assigned exactly the same codes or numerical values to the concerned object of rating. For examining the reliability of the question-wording classification protocol, two independent coders: researchers and an independent coder were involved in the coding process of a Bangladesh and Global Studies question paper. The researchers were played as coder 1. Another independent coder was selected purposefully by the researchers. The researchers and the independent coder coded the items of the selected question papers separately. The independent coder submitted her/his codes to the researchers. The researchers then calculate the intercoder agreement. In calculating the intercoder agreement – (i) first the codes of the two raters for each item were tabulated. Then for each item, the codes were inspected and assigned 1 for same codes of coder 1 and coder 2 and zero (0) for differed codes. After inspecting the matching of the codes total number of agreed codes was calculated. Finally, the percentage of agreement was calculated dividing the total number of agreed codes by the total number of all codes and multiplying the fraction by 100. The calculated inter-rater agreement for the question-wording classification protocol was 83.71% which was quite high. Following rules-of-thumb for per cent agreement, this value i.e., 83.71% is much higher than “minimal agreement” (75%) and nearer to “high agreement” (90%) category. Thus, the value of per cent agreement for the question-wording classification protocol satisfied the ‘adequate level of agreement’ criteria. Therefore, the protocol produced a reliable result.

Data Analysis Technique

Quantitative data were collected from the question-wording classification protocol which was applied to the Bangladesh and Global Studies SSC examination questions and the curriculum reading protocol applied to the curriculum content. The quantitative data were analyzed using

descriptive statistics which included simple percentage and arithmetic mean. Percentages provide an overall scenario and arithmetic means were determined to find out the centre of the data set. The results were presented through tables, charts and graphs. Qualitative data were collected from a semi-structured interview of students. Thematic analysis technique was used to analyze the qualitative data.

THE RESULT OF THE STUDY

Question-wording classification protocol

The test items of SSC Bangladesh and Global Studies have been analyzed here yearly. The analysis has been shown with table and graph. The wording criteria and practising criteria both were analyzed under the six sub-domains of Bloom's taxonomy. They were Remembering Understanding, Application, Analysis, and Evaluation and Creation sub-domain under the cognitive domain.

Table 4. Matching between question-wording and actual learning practice

Question	Bloom's level of cognitive learning based on	
	question-wording (researcher)	actual practice (students)
Mimand Mahin's parents are service holder. During holidays they all together go out. Their behaviour is praiseworthy. Both are renowned as brilliant University student. Besides study, they also read newspapers, watch educational programs in their free time.		
a) How people can be a responsible citizen of a society?	Knowledge	Knowledge
b) What do you mean by 'Interaction'?	Understanding	Knowledge
c) Which element of socialization is indicated in the first part of the stem? Please Explain.	Application	Understanding
d) Modern Era culture has been formed based on the topic mentioned in the second part of the stem- please analyze the opinion.	Analysis	Understand
Mr Kashem in an influential person of his village. He is trying to grab Mr Rahim's land for a very long time and so he is harassing Mr Rahim in many ways. In this		

circumstance, when Mr Rahim went to court for justice, The judge gave the judgement in favour of Mr Kashem.		
a) Please define the law of professor Holland?	Knowledge	Knowledge
b) What do you mean by sovereignty?	Understanding	Knowledge
c) Which clause of law has been broken in the stem? Please explain.	Application	Understanding
d) “The successful democracy depends on the effective application of the above concept”- analyze the statement.	Analysis	Analysis

The above table 4 shows the matching between questing wording and actual learning practice of selected test items. At the first researcher selected the test items by wording criteria, the researcher asked the students how he/she solved this task/test items. Based on students response researcher recognized the actual learning practice.

Analysis of MCQ Questions

a) Analysis of (2015) MCQ questions: Eight (08) tests of 2015 has been selected for this analysis. There are two types of test items, CQ and MCQ. Every CQ is consists of thirty-six (36) items and MCQ Questions consists of forty (40) items. MCQ items were analyzed by the wording and practising criteria. From figure-2 it is clear that among 320 MCQ items the wording criteria show that remembering based questions are 52.50%, 25% questions are understanding based, 10% questions are application and the rest 12.50% questions are focused to higher order learning. But in case of preparing MCQ questions, it is mandatory that 70% MCQ questions should focus knowledge and understanding level and 30% should be application and higher order learning based questions (SESDP training manual 2010). In case of practising criteria, 57.59% MCQ questions are engaging students’ knowledge level, 20% questions are understanding, 12.50% questions are application and the rest 7.50% questions are focused to students’ higher level learning. It is very clear from the analysis that higher order learning is very poor in 2015 MCQ questions.

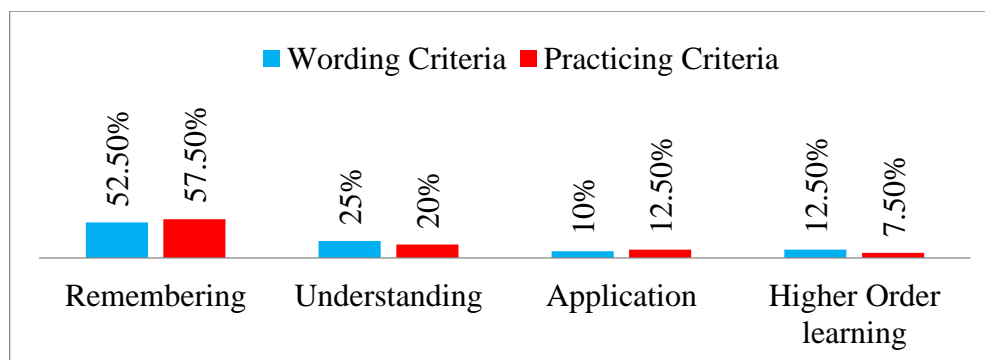


Figure 2. Analysis of MCQ (2015) questions by learning domain and two criteria

b) Analysis of (2016) MCQ questions: From figure-3 the wording criteria shows that remembering based questions are 50%, 75% questions are understanding based, 15% questions are application and the rest 10% questions are focused to higher order learning. In case of practising criteria, 60% MCQ questions are engaging students' knowledge level, 22.50% questions are understanding, 10% questions are application and the rest 7.50% questions are focused to students' higher level learning. It is clear from the analysis that higher order learning of both 2015 and 2016 MCQ questions are same and it's not up to the mark.

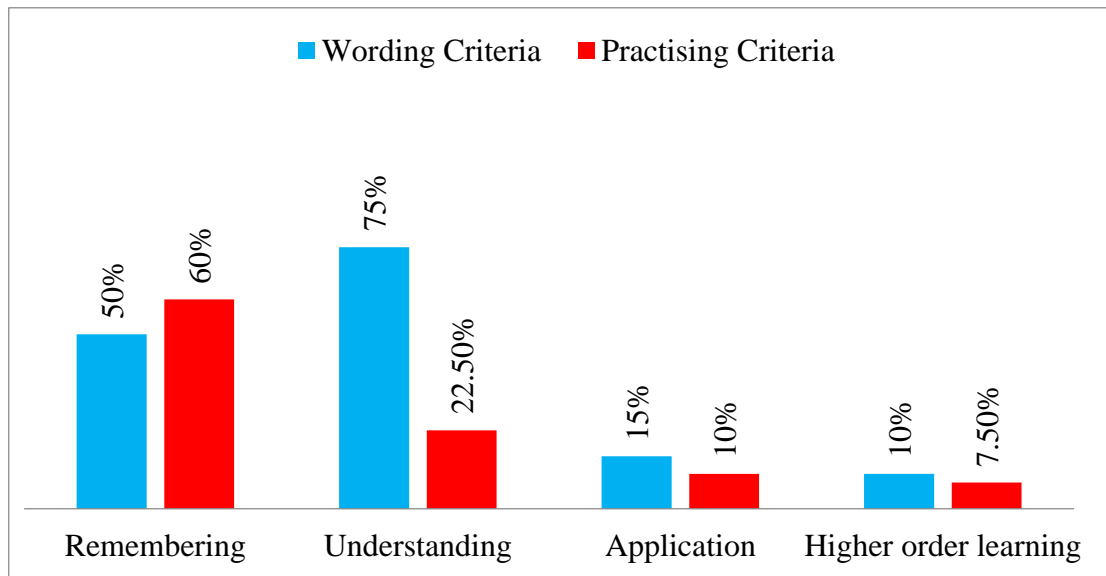


Figure 3. Analysis of MCQ (2016) questions by learning domain and two criteria

Analysis of CQ Questions

a) Analysis of (2015) CQ questions: From figure-4 the analysis of CQ items by wording criteria shows that remembering based questions are 25%, understanding level questions are 27.78%, application level questions are 19.44%, analysis based questions are 11.11%, synthesis based questions are 16.67% and evaluation based questions are only 2.78% which is nearly ignorable.

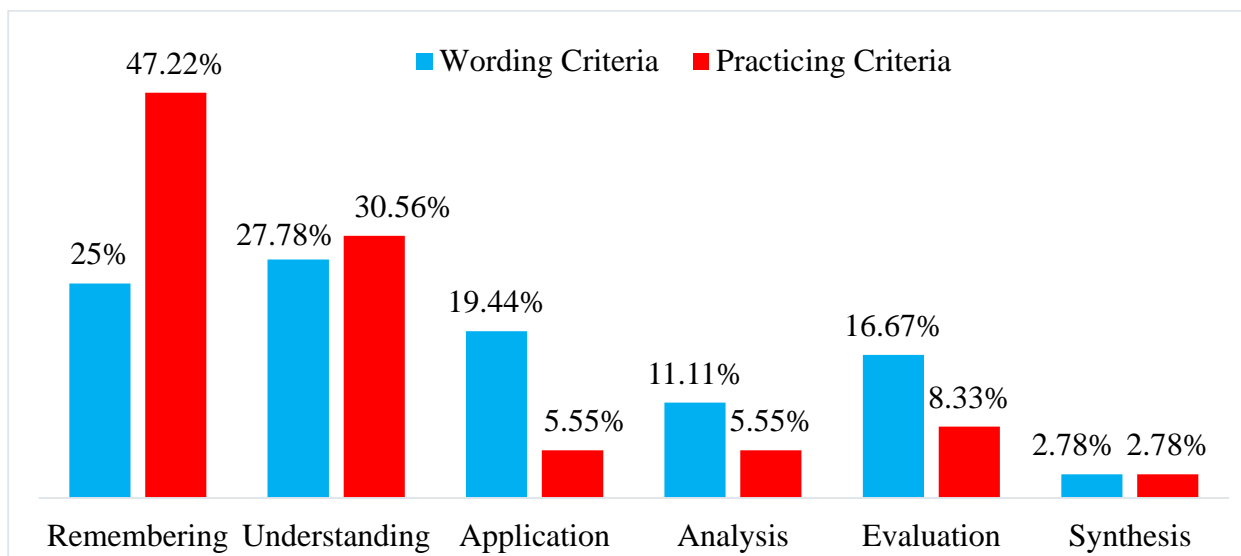


Figure 4. Analysis of CQ (2015) by learning domain and two criteria

In terms of practising criteria, 47.22% questions are knowledge-based, 30.56% questions are understanding, both application and analysis questions are 5.55 %, 8.33% questions are an evaluation based and only 2.78% items are focused synthesis skill of students.

b) Analysis of (2016) CQ questions: From figure-5 the analysis of CQ items by wording criteria shows that knowledge-based questions are 22.22%, understanding level questions are 27.78%, application level questions are 25%, analysis based questions are 19.44%, synthesis based questions are only 5.56% and no questions were evaluation level questions.

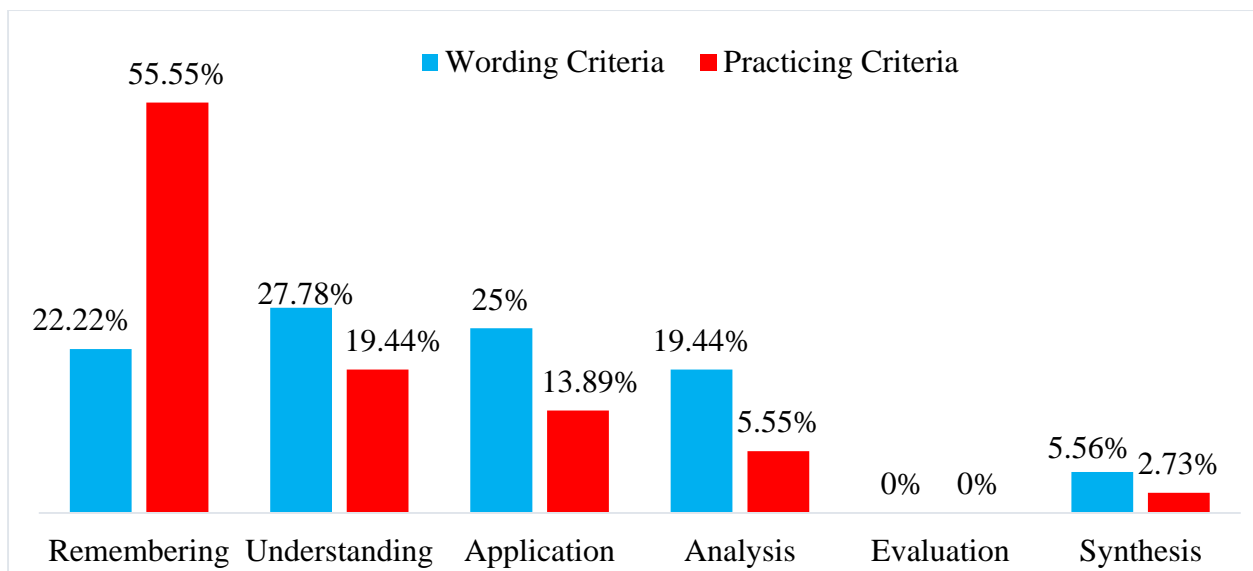


Figure 5. Analysis of CQ (2016) by learning domain and two criteria

In terms of practising criteria, 55.55% questions are knowledge-based, 19.44% questions are understanding, 13.89 % questions are application, 5.55% questions are analysis based and only 2.73% items promote synthesis level learning. Evaluation based questions were totally absent

in the question. In case of wording criteria, there is a little change in CQ question items (2016) as application-level questions (25%) are higher than remembering level questions (22.22%) but there is no change in practising criteria.

4.4 Trends of MCQ and CQ (2015 & 2016) Questions

From the analysis of these two years MCQ questions, we can see that these questions consist of total of 640 items. From wording criteria perspective in figure-6, it shows that 58.75% questions promote remembering level, 22.50% questions promotes understanding, 11.25% questions are application level and 7.50% questions are focused to higher order learning. In practising criteria, 51.25% questions are remembering level, 33% questions understanding, 12.50 % questions are application level and only 3.75% questions promotes higher order learning level questions. It is a good scenario that in practising criteria understanding and application level questions are higher than wording criteria. But in actual practice higher order learning has reduced than wording criteria.

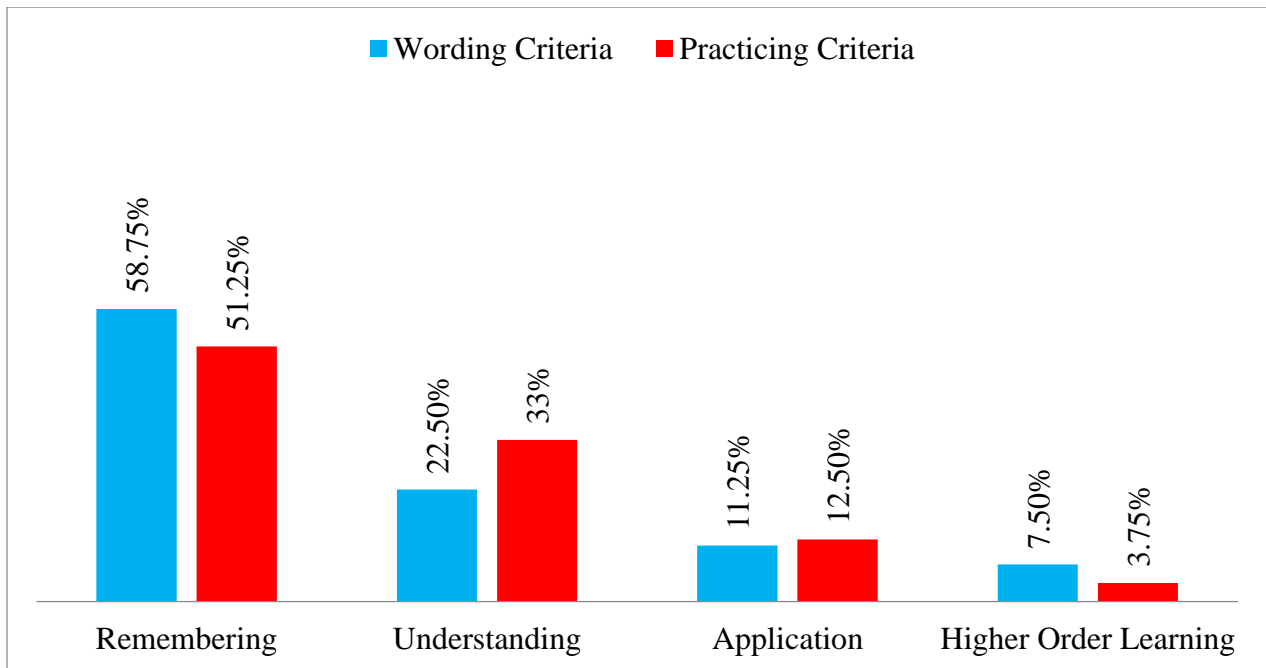


Figure 6. Analysis of MCQ (2015 & 2016) by learning domain and two criteria

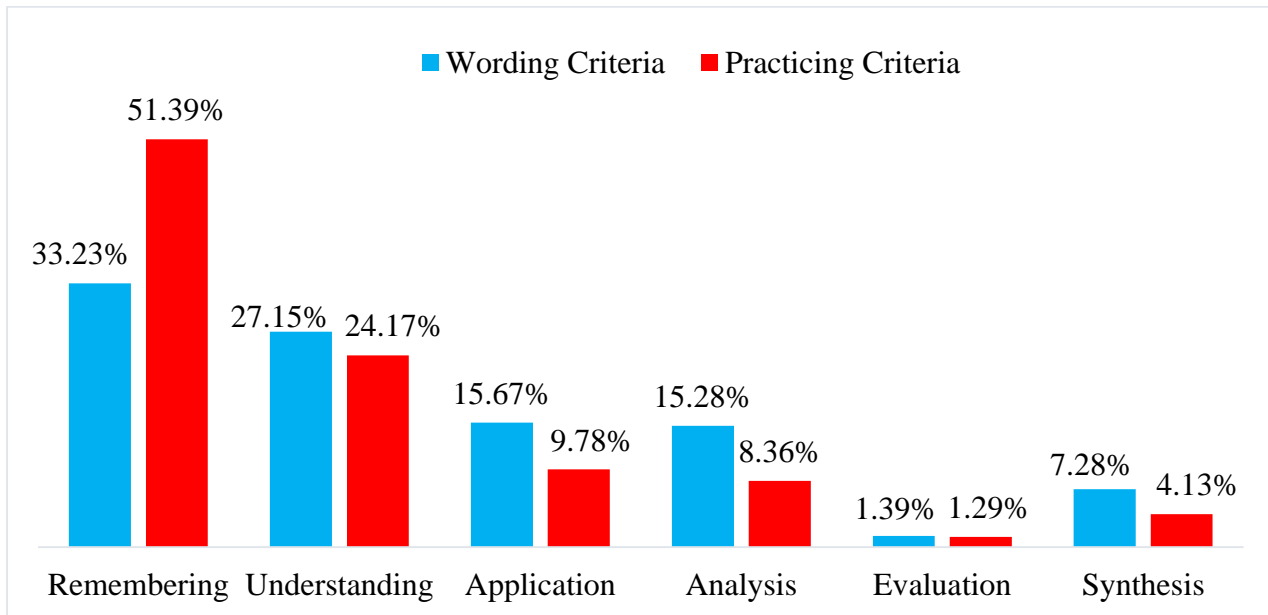


Figure 7. Analysis of CQ (2015 & 2016) by learning domain and two criteria

Figure-7 shows the analysis of the two years creative questions. From the wording criteria perspective, 33.23% questions promote remembering level learning, 27.15% questions promotes understanding level, 15.67% questions are application level, 15.28% are analysis level, 7.28% questions are synthesis level and only 1.39% are evaluation level learning.

In case of practising criteria, 51.39% questions are knowledge-based, 24.17% questions are understanding level, 9.78% questions are application, 8.36% are analysis level, 4.13% questions are synthesis and only 1.29% questions are focused to evaluation level learning. It is clear that both in wording and practising criteria evaluation based questions are totally ignored.

4.5 Major Skills Reflected in the Curriculum and Test items

According to the NCTB BGS curriculum of 2012, BGS subject should focus on three basic skills. They are content knowledge skill, social attitude and social skill. These skills were identified by analyzing the chapter wise learning outcome of the curriculum. Here, the content knowledge skill is classified into six- subcategory. They were: remembering, understanding, application, analysis, synthesis and evaluation.

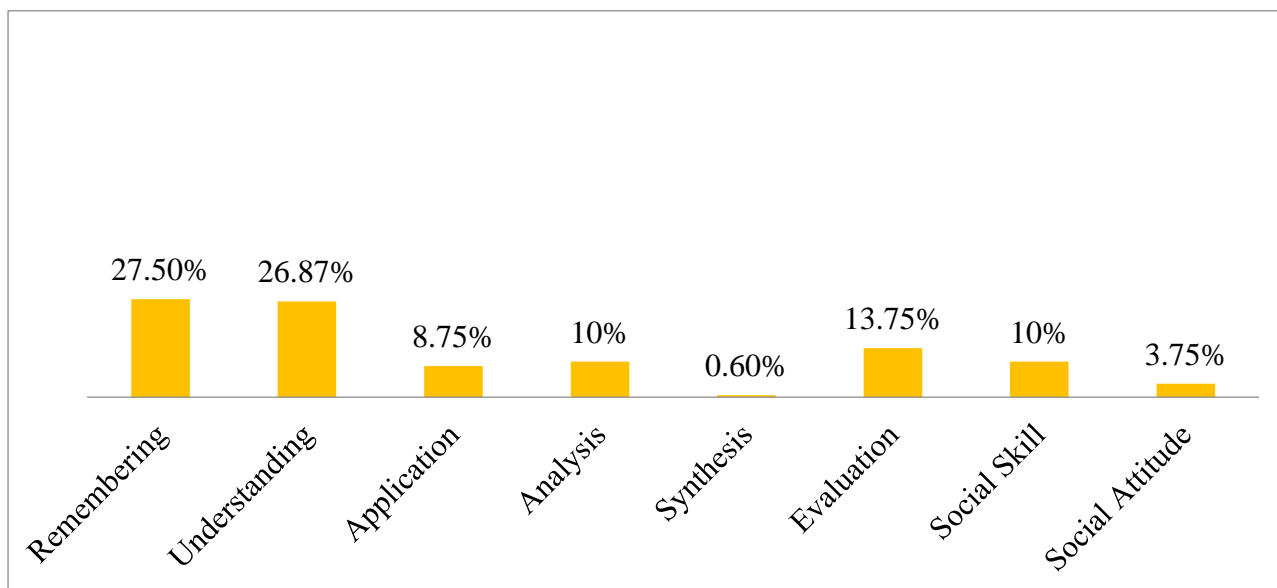


Figure 8. Major skills reflected in the curriculum

Figure 8 shows the major skills focused in the curriculum of BGS subject. It can be said that remembering subdomain was 27.5%, the understanding was 26.87%, and application subdomain was 8.75%. On the other hand, the analysis was 10%, evaluation subdomain was 13.75% and synthesis was only (0.6%). So, in total 87.47% of the BGS curriculum focused only content knowledge skill. Whereas Social skill has covered 10% and social attitude has covered only 3.75% of the BGS curriculum.

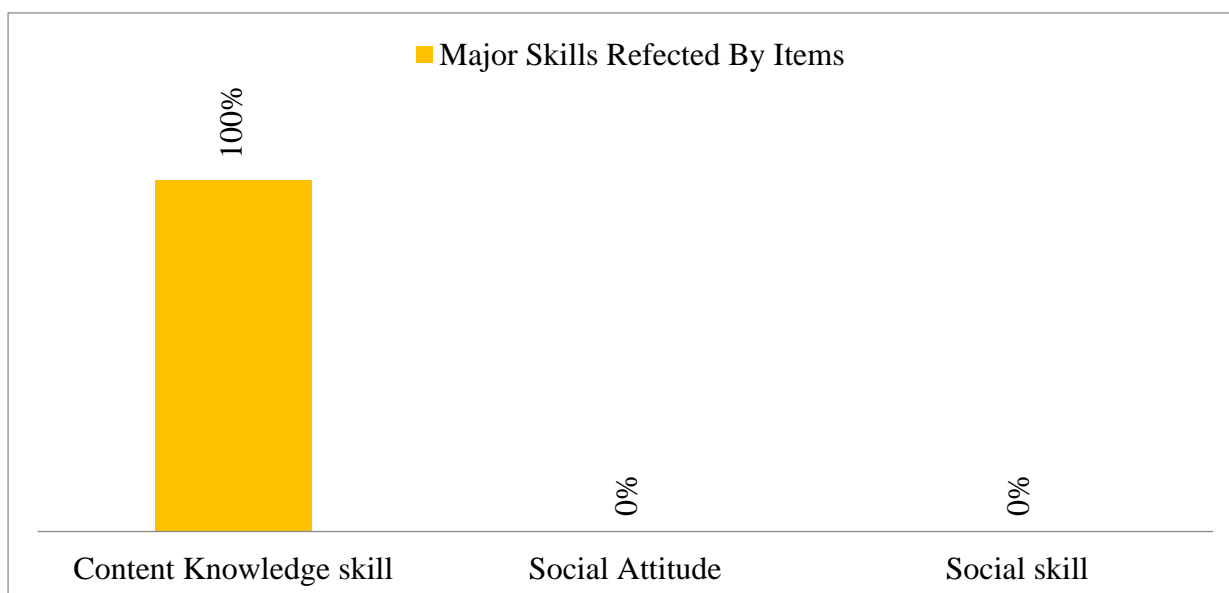


Figure 9. Major skills reflected in the Test items

Figure 9 shows the major skills focused in the test items of 2015 and 2016 BGS SSC questions. Both from the wording and practising criteria, the BGS test items focused only content knowledge skills. Social attitude and social skills were totally absent in the test items of SSC

questions. So, it's very clear that SSC questions test items are not exactly reflecting the BGS curriculum.

Analysis of students' opinion about the actual practice of examination

Students were asked about the actual practice of questions in SSC examination with selected test items. Their responses were analyzed thematically to draw the inner meaning from it.

A. The question which is directly from the book: It is found that questions which are literally from the books, students just write it from their memory. Most of the students said that *'To answer the questions, we depend on the textbook. The question (a) always comes from the textbook. If we don't memorize it we can't answer the question.'* Another student S₁I₁ said that *'Stem is not needed for answering the question (a).'* In answering the creative question almost every student told that *'If we read the textbook thoroughly and memorize the important information of the chapters then we can answer the questions.'* Another student S₂I₂ said that *'to get good marks in MCQ, we sometimes solve the answers from guidebook and coaching's sheets.'*

B. A little bit changed questions promote understanding: Just little bit changed questions are promoting students understanding the level of learning. One student S₂I₃ said that *'the understanding type questions are mainly coming from the main book. Sometimes it comes partially from the book.'* Another student S₂I₄ said that *'the questions which are set as a question (b) is mainly knowledge-based question. But sometimes the stem is needed to answer this type of questions.'* Another student S₃I₅ added that *'If I have enough knowledge of the topic given as question then it is easier to answer understanding type questions.'* Furthermore, most of the students also said that *'When these questions come with little bit change than knowledge, we mostly answer these questions from our memorization and sometimes with a little bit of understanding.'*

C. Questions which promotes application level learning: After answering the application based questions the students S₃I₆ said that, *'The application type questions which comes in our exams are not always application based, it is mostly understanding type questions.'* Another student S₂I₇ added that *'If anyone understands the stem clearly, then this types of questions can be answered easily.'* Another student S₄I₈ said that *'To answer these types of questions I take knowledge from textbook and add some experience or outside knowledge from a textbook.'* Some of the students told that *'They take help from the reference books to answer these types of questions.'*

D. Questions which promotes higher order learning: Most of the students said that *'This types of question don't come directly from the textbook, they have to read the stem to get the idea of answering this types question.'* Some students told that if they can understand the stem perfectly, then it's easy to answer these types of questions. Another student S₆I₈ said that *'Personal knowledge, personal insights, thinking about practical experiences are important to answer higher order learning questions.'* Eight students mentioned that only textbook is no not

enough to answer this types of questions. So, they take help from the ‘Panjeri guide book’, ‘Lecture guide book’ etc. One student added that *‘We also follow sheets of coaching centre, model test questions, and renowned school teachers’ sheets to get the questions common in the exam.’* Another participant S₃₁₈ stated that *‘In most of the cases we get familiar questions as we learn the same questions with a little bit change in the stem. Sometimes just the names of the characters or the name of the place are changed.’*

DISCUSSION OF THE STUDY

The analysis of the selected test items of Bangladesh and Global Studies from different education boards and academic years have drawn our attention to the nature of tests (assessment) with Bloom’s cognitive domain. The findings reveal that there is an uneven application of Bloom’s cognitive domain in the assessment system and also a mismatch between the BGS curriculum and the test items of BGS SSC questions. The study found that most of the creative questions (33.23% of remembering, 27.15% of understanding, and 15.67% of application) are promoting only lower order learning skills. Few BGS creative questions are promoting (15.28% analysis, 7.28% synthesis and only 1.39% evaluation) higher order learning skills. Similarly, Begum and Ahmed (2007) found in their study that both social science and general science test items were intensively dominated by the recalling. Very few items (General Science 6.7%, Social Science 0.9%) were developed to assess students’ higher abilities of learning. Tujjahan (2017) also found that 3.70% questions are knowledge-based, 18.52% understanding, 60.65% application, 13.43% analysis, 0.93% evaluation and 2.78% are creativity based questions. So, it can be clearly said that there is an imbalance in question formulation.

This study revealed that in practising criteria 51.39% questions were knowledge-based, 24.17% were understanding, 9.78% application, 8.36% analysis, 4.13% synthesis and only 1.29% questions were focused to evaluation level learning. It means that BGS test items of SSC examination encourages lower order learning more in practising criteria than the wording criteria. Similarly, Sultana and Rahman (2018) found that SSC examination assessment encourages the lower order learning as only 1.90% questions promoted higher order learning of students. Khatun (2012) also found that 40% questions could assess higher order learning and 26% questions could assess understanding type learning of students. But in terms of actual practice, there was no higher order learning type question.

This study revealed that 92.50% MCQ are focused to lower order learning and only 7.5% are promoting higher order learning in terms of wording criteria. The scenario became more alarming in the practising criteria of MCQ where 96.25% are focused to lower order learning and only 3.75% promotes higher order learning of the students. Aziz (2011) found that there was a poor reflection of higher order domains in the social science SSC questions of Bangladesh. From an analysis on SSC board questions, it was found that more than 90% questions are knowledge-based learning. (Begum & Mullick, 2005). According to Naomee and Tithy (2013), Social science is such a subject where it is not always possible to show synthesis or evaluation skills. So, those higher ordered sub-domains were neglected in the SSC

questions. The above feature tells that the construction of the questions should be balanced and higher order learning type questions should be increased. It is very necessary to focus on making the questions orderly.

The main focus of the creative question is to assess students' different skills including knowledge, understanding, applying and higher-order thinking and through this, the memorizing tendency of the students will be decreased and they will be creative (Rahman, 2010). But as questions fail to assess different skills properly, it is a matter of thinking that is it really making the students creative? (Khatun, 2012)

The study reveals that 87.75% of learning outcome of BGS curriculum focuses on cognitive level skills, 13.75% social attitude and only 3.75% social skills. Whereas in the question papers only cognitive skills can be found. So, BGS assessment is not reflecting the curriculum appropriately. Similarly, Naomee and Tithy (2013) stated that the learning outcomes of the curriculum are not consistency with the assessment system at all. As test items of questions are ignoring social skills and social attitude, students will not able to gain desired values, attitudes and skills that they were supposed to gain through Bangladesh and global Studies subject.

This study revealed that the affective domain and psychomotor domain are totally ignored from the SSC questions of BGS subject. Similarly, Shahzad, Qadoos, Badsha, Muhammad and Ramzan (2011) found that psychomotor and affective domain were totally neglected from the question papers and there was no balance among three categories of Bloom's taxonomy. The main focus of the creative question is to assess students' different skills including knowledge, understanding, applying and higher-order thinking and through this, the memorizing tendency of the students will be decreased and they will be creative (Rahman, 2010). But as questions fail to assess different skills properly, it is a matter of thinking that is it really making the students creative? (Khatun, 2012).

This study revealed that most of the students answer creative questions from their memory as most of the questions directly come from textbooks. All knowledge and understanding based questions come from the textbook. Similarly, Sultana and Rahman (2018) found that most of the questions are literally copied from the book and students are able to answer it from their memory.

Students take help from the stem of the questions to answer application based questions. Although some students mentioned that they use their personal experience, insight to answer higher order learning questions, real scenario was totally opposite Students mainly followed guidebooks, model test questions, coaching sheets and renowned teachers sheets to answer these questions. Students believed that only textbook is not enough for them to learn everything. Similarly, Khatun (2012) found that students are following the guidebooks for answering the questions. Khatun (2012) added that students' dependency on guidebooks have increased because they want to get more ideas about creative questions by reading different types of questions from the guidebooks. Sultana and Rahman (2018) found in their study that

the stems of CQs in the selected SSC question papers were known to the students as those matched with the CQs in the guidebooks, textbooks and coaching sheets.

In Bangladeshi context, students' minds are conditioned in such a way that they become accustomed to the system and they just cannot think outside the box. Though the government has initiated the creative curriculum to promote creativity the present scenario does not show the proper implementation (Shawkat, 2014). Creative questioning has given the scope for demonstrating higher order skills for the students. But as the questions are not set accordingly, so, most of the time students tend to memorize even those higher order questions' answers and pass the examinations. Although both in wording criteria and practising criteria 10-15% questions promote higher order learning, as those questions can be found in guidebooks or coaching sheets, students are answering these questions only from their memorization. So, it can be concluded that through Bangladesh and Global Studies SSC questions students are only nurturing their memorization and understanding ability.

From the discussion above, it is clear that the problem was in the whole education system, starting from the curriculum, a textbook to assessment system where question makers are copying questions from guides and books. It is essential to solving the problem immediately through changing the whole curriculum to assessment system of Bangladesh. Teachers should be sincere in making the proper questions through following the rules and regulation of creative questions manual. The test items should be designed in such a way that it encourages students self-thinking ability (Sultana & Rahman, 2018). The test used in secondary level examinations need to be improved and reflect all three domains of Bloom's taxonomy so that students are engaged in a learning process which develops not only their higher order learning skills but also enrich their values, attitudes and mindset to create a prosperous nation.

CONCLUSION

The study has found some major shortcomings in the Bangladesh and Global Studies subject's SSC examination system. In real practice, most of the test items demanded only remembering and understanding level learning of students. Both in creative questions and multiple choice questions evaluation and synthesis level of learning was totally ignored. There was an imbalance in wording criteria and practising criteria of test items. Furthermore, BGS test items didn't follow the curriculum appropriately. So, this types of assessment are not only hampering students' creativity but also encouraging them to memorize questions answers from guidebooks, coaching sheets and hand notes. The findings of this study can be a point of reference for policymakers, teachers, curriculum developers and other stakeholders to step forward in improving the secondary assessment system of our country.

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