Reflection of Bloom's Taxonomy in the Learning Outcomes of Secondary Social Science Curriculum of Bangladesh

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Abstract: *This study determines to find out the reflection of Bloom's taxonomy on the learning outcomes of secondary social science curriculum of Bangladesh. Its objectives were: to categorize the learning outcomes of secondary social science curriculum according to the Bloom's taxonomy and to analyze the reflection of Bloom's taxonomy on the learning outcomes of secondary social science curriculum. Data was collected by analyzing curriculum document using table of specification and interviewing curriculum specialists using interview schedule. According to the findings of the study, uneven application of the domains indicated by Benjamin Bloom and lack of consistency of the curriculum became apparent.*

Keywords: Bloom's Taxonomy, Social Science, Learning Outcomes, Bangladesh.

1. Introduction

Bloom et. al. (1956) established taxonomy for educational objectives in order to help the curriculum developers and the teachers to set learning experiences for the students and to develop assessment tools to measure their learning. They suggested that the learning experiences for the students should be categorized in three major domains- Cognitive domain, Affective domain and Psychomotor domain so that the overall development of a student can be ensured. Bloom has given highest amount of priority to the cognitive domain as it deals with recall and recognition of knowledge and the development of intellectual abilities and skills. According to Bloom, this is the domain where most of the work in curriculum development has taken place and where clear definition of objectives is mostly needed.

The educational objectives of the curriculum are specified through learning outcomes. The basic idea of using learning outcomes had been derived from the behaviorist tradition of teaching and learning in 1970s in United States. Robert Mager first proposed the idea of writing specific statements about observable outcomes and instructional objectives, which mainly define the "end behavior" in order to create a basis for the best possible instructional behavior. (Lavonen, 2011) Learning outcomes are the specifically defined behavioral objectives that the learners actually achieve and become able to show through different actions.

The main goals of education are presented in the curriculum through learning outcomes so that the goals become specific and measurable. It is essential for the students to achieve those learning outcomes for proper learning and overall development. Learning outcomes have been emphasized by the behaviorists and they have defined it as behavioral

outcomes. Some curricula are behaviorists which include behavioral outcomes and some curricula are more humanistic, constructivist or feminist, that does not give importance to behavioral formats. (Connolly & De Young, 2004) Constructivists conclude that students learn best when they have a clear statement of outcomes. (Moon & Callahan, 2001)

However, education means life centered knowledge and skills. (Nahid, 2011). Secondary education aims to bring out learners' latent talent and potentiality. (Education Policy 2010, p.12) The importance of social science is widely recognized in the constitution of the people's republic of Bangladesh. The constitution states in article 17 that the state shall adopt effective measures for the purpose of relating education to the needs of society and producing proper trained and motivated citizens to serve those needs. (GoB, 1993) The national curriculum report of 1995 for secondary level also highlights social aspects as aims and objectives of education in Bangladesh and thus gives emphasis on teaching social science at secondary schools.

It is a matter of regret that in Bangladesh the education system is still knowledge based. If the taxonomy is used properly, in setting learning outcomes; it would have been easier for the teachers to provide the students intended knowledge, skills and attitude. As a result the overall educational goals would have been fulfilled properly.

This study has been conducted in order to review the social science learning outcomes of secondary level and the use of Bloom's Taxonomy on those learning outcomes.

2. Literature Survey

2.1 Curriculum

Curriculum is the overall blueprint of an education system. According to Tanner & Tanner (1980), Curriculum is that reconstruction of knowledge and experience, systematically developed under the auspices of the school to enable the learner to increase his or her control of knowledge and experience.

Marsh & Willis (2003) defined curriculum as the totality of learning experiences provided to students so that they can attain general skills and knowledge at a variety of learning sites.

2.2 Learning Outcomes

Learning outcomes are the specific knowledge, skills and attitude that a student will achieve after finishing a specific lesson.

According to Chapman (2008),

Learning outcomes describe what students are expected to be able to do upon success in a unit. They provide a link between expectations, teaching and assessment. They begin with a strong action verb and describe specific tasks, preferably requiring students to develop higher order thinking skills.

Student learning outcomes are defined in terms of the knowledge, skills, and abilities that students have attained as a result of their involvement in a particular set of educational experiences. (Yuba Community College District Academic Senate, 2005)

According to World Bank (2011), a learning outcome is the particular knowledge, skill or behavior that a student is expected to exhibit after a period of study. Learning outcomes reflect a nation's concern with the level of knowledge acquisition among its student population. Measuring learning outcomes provides information on what particular knowledge (cognitive), skill or behavior (affective) students have gained after instruction is completed. They are typically measured by administering assessments at sub-national, national, regional and international levels. Countries decide what the purpose of the assessment is, what population will be assessed, what is to be assessed, how it is to be assessed, and how the measures are to be reported and utilized. Policy makers might decide to focus on a limited amount of domains and grade levels while others will focus on the measurement of student knowledge in a wide range of domains and grade levels.

2.2.1 Importance of Learning Outcomes

Lindholm (2009) described the importance of learning outcomes as apart from their rather utilitarian value within assessment contexts, learning outcomes are increasingly embraced within the higher education community for a variety of reasons:

1. When students know what is expected of them, they tend to focus their studying time and energy better, thus improving learning.
2. Student learning outcomes support a "learner-centered" approach to instructional activity.
3. Once published student learning outcomes communicate to prospective students, their parents, and the public what is valuable about academic program.
4. Assessing student learning outcomes can provide information to students on their strengths and weaknesses in relationship to specific learning dimensions.
5. Assessing student learning outcomes can provide faculty with information that can be used to improve educational programs and demonstrate their effectiveness.

2.2.2 Types of Learning Outcomes

Learning outcomes can be of different types. Such as-

1. Knowledge based outcomes
Facts
Concepts
Theories
2. Skill based outcomes
Cognitive
Information literacy
Computational/ Numerical skills
Social/ Interaction
Communication skills (written and oral)
Collaboration/ Team skills
Initiative and leadership skills
Aesthetic Sensitivity
Appreciation for Art, Literacy and Music
Proficiency in basic procedure for creating Art, Literature and Music
Creativity in Art, Literature and Music
3. Values/ Attitude based outcomes
Open-mindedness and love of knowledge
Willingness to learn and change
Desire to develop personal interest
Willingness to take risks
Diligence and integrity
Perseverance in one's work habits
Uncompromising in pursuing quality results
Humility about one's own importance
Social responsibility
Ethical awareness
Political accountability
Appreciation for diversity

(Adopted from Northeastern Illinois University, 2012)

2.2.3 Developing Learning Outcomes

Learning outcomes are generally written in action verbs maintaining certain criteria. They include qualifiers to restrict the conditions and terms under which the objectives are met.

The verbs used in writing learning outcomes should be observable, measurable and specific. These must indicate the behavior of the learners that is to be tested. (The Learning Management Corporation, n.d., p.2)

In Bangladesh the learning outcomes of Secondary Curriculum (1995) had been developed by curriculum development committees. The process of developing learning outcomes have not been declared anywhere in the curriculum or any other document.

2.3 Social Science

Economic and Social Research Council (ESRC), United Kingdom, has described Social Science as:

Social science is, in its broadest sense, the study of society and the manner in which people behave and influence the world around us.

Some social scientists argue that no single definition can cover such a broad range of academic disciplines. Instead they simply define the social sciences by listing the subjects they include.

Social Science is a compulsory subject for the students of class VI to VIII and for the science group students of class IX and X of Bangladesh. It is an integrated subject consisting six different subjects- Sociology, History, Geography, Civics, Economics and Population Education.

2.4 Social Science Curriculum

According to Aggarwal (1993), "Social Science curriculum may be considered as a tool in hands of the artist (social science teacher) to mould his material (the pupil) in accordance with the nature of the Society and the Child in his studio (the school)." (p.4)

In Bangladesh, the secondary curriculum has a different segment for Social Science. There the aims, objectives, learning outcomes, teaching-learning methods, instructions and evaluation system are described for social science.

2.5 Secondary Level

In Bangladesh, education from class I to XII is divided into two major levels- Primary and Secondary. Secondary level starts from class VI and it is divided into three sub-levels- Junior Secondary Level, Secondary Level and Higher Secondary Level.

- *Junior Secondary Level* – Class VI to VIII
- *Secondary Level* – Class IX and X
- *Higher Secondary Level* – Class XI and XII

2.6 Taxonomy

Taxonomy is the practice and science of classification. It is a particular classification arranged in a hierarchical structure. Mathematically, a hierarchical taxonomy is a tree structure of classifications for a given set of objects. It is also named Containment hierarchy. At the top of this structure is a single classification, the root node that applies to all objects. Nodes below this root are more specific classifications that apply to subsets of the total set of classified objects. (Malon & Joseph, 1988)

Use of taxonomy i.e. classification in classifying learning outcomes can help one gain a perspective on the emphasis given to certain behavior by a particular set of educational plans. Using taxonomy can help curriculum developers to plan learning experiences and prepare evaluation devices.

2.7 Table of Specification

According to Hithadhoo (n.d),

A table of specification (TOS) is the technical term given to the plan for writing items for a test. A table of specification should reflect what has been taught in the instructional sequence. In other words, the testing mode is a mirror of the instructional mode. Since the instructional mode has basically two dimensions- content matter and intellectual process, the TOS should likewise reflect both content and process. By process we mean the intellectual level with which the students engage a specific content or unit of information. We can use the categories of Bloom's taxonomy to help define the process. (p.1)

In this study, the table of specification has been used to determine the domains of each of the learning outcomes of secondary social science curriculum. At first all the learning outcomes have been set in the table and the domains have been determined (table format adopted from a format given by Gottfredson, 2004), then in another table, the number and percentage of learning outcomes from each domain have been declared.

2.8 Semi Structured Interview Schedule

A semi-structured interview is a method of data collection used in social science researches. This type of interview is flexible allowing probe questioning and follow up questioning. The interviewer has to prepare a framework of the interview prior to the interview. The framework helps the interviewer to modify the interview questions according to the situation and the answer of the interviewee. (Lindlof & Taylor, 2002)

Here the data collection tool is called semi structured interview schedule and the method of collecting data is called semi structured interview.

2.9 Bloom's Taxonomy

In 1956, educational psychologist Benjamin Bloom chaired a committee of college and university examiners who were charged with the development of a classification system that would capture the intellectual behavior important in learning. This classification system was to delineate the "intended behavior" of students - the ways in which individuals are to act, think or feel as a result of participating in a unit of

instruction expressed in measurable observable formats (learning objectives). This became known as Bloom's Taxonomy. The committee identified three overlapping domains: the cognitive domain, affective domain, and psychomotor domain.

2.9.1 Cognitive Domain:

The cognitive domain encompasses a hierarchical series of intellectual skills involving the acquisition and use of knowledge that ranges from simple recall to the ability to judge and evaluate learned material. Bloom identified six levels within the cognitive domain.
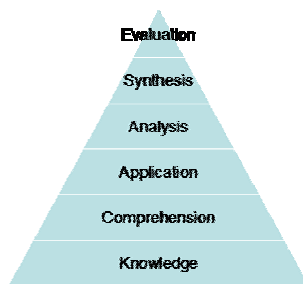

Figure 2.1: Hierarchy of the sub-domains of Cognitive Domain

The sub-domains of Cognitive domain have been described below-

Knowledge- The lowest level on Cognitive domain is knowledge. Basically knowledge is the recalling of facts in the same format of which they were learnt. Students have the ability to store in their mind certain information and later to remember and recall it, often with slight alteration.

Comprehension- Comprehension is the acquisition of knowledge. It refers to those objectives, behaviors, or responses that represent an understanding of the literal message contained in a communication, without necessarily relating it to other material. After memorizing facts learners earn the ability to transform it into a new form without changing the original meaning.

Application- Application means to be able to generalize knowledge and apply the theoretical understanding in actual situation. The knowledge of deduction is required in this level. This means that the problem should be drawn from material the student is not likely to have yet had contact with, or be a problem known to the student, but having a different slant that he/she is unlikely to have thought of.

Analysis- Analysis is the understanding of the relationships of different parts of a material or communication. It is the ability to breakdown something into its constitutional elements and to examine the different parts as well as the whole. While clear lines can be drawn between analysis and comprehension or analysis and evaluation, it is useful to think of it as an aid to more complete comprehension and as a prelude to evaluation.

Synthesis- After breaking down the whole thing, the learners have to gain the ability to combine the parts to make a new whole. This is synthesis. In this level creative thinking emerges. This is the category in the cognitive domain that Bloom tells us most clearly provides for creative behavior on the part of the learner, but within the limits set by the framework.

Evaluation- All the previous steps are required in this level. It is the most complex level of thinking. The learners achieve the quality to assess the effectiveness of the whole on the basis of some criteria. It may be quantitative or qualitative.

2.9.2 Affective Domain

The affective domain deals with the emotional aspects. According to Seels and Glasgow, "the taxonomy is ordered according to the principle of internalization. Internalization refers to the process whereby a person's affect toward an object passes from a general awareness level to a point where the affect is 'internalized' and consistently guides or controls the person's behavior" (1990, p.28)

According to Krathwohl, Bloom and Masia (1964) affective domains sub-domains are-

Receiving is being aware of or sensitive to the existence of certain ideas, material, or phenomena and being willing to tolerate them.

Responding is committed in some small measure to the ideas, materials, or phenomena involved by actively responding to them.

Valuing is willing to be perceived by others as valuing certain ideas, materials, or phenomena.

Organization is to relate the value to those already held and bring it into a harmonious and internally consistent philosophy.

Characterization by value or value set is to act consistently in accordance with the values he or she has internalized.

2.9.3 Psychomotor Domain

Benjamin Bloom could not have classified the psychomotor domain. Different educators classified this domain differently. Harrows, Simpson and Dave classified and explained the psychomotor domain differently at different times. (Huitt, 2003)

Psychomotor learning is demonstrated by physical skills: coordination, dexterity, manipulation, grace, strength, speed; actions which demonstrate the fine motor skills such as use of precision instruments or tools, or actions which evidence gross motor skills such as the use of the body in dance or athletic performance. (Simpson, 1972)

2.10 Limitations of Original Taxonomy and the Revised Taxonomy

While applying the taxonomy, several educators faced problems. A remarkable flaw of the taxonomy is the assumption that cognitive processes are ordered on a single dimension of simple to complex behavior. (Furst, 1994, p.34) Anderson, Krathwohl, Airasian, Cruikshank, Mayer, Pintrich, Raths and Wittrock (2001, p.309) suggested "Cumulative Hierarchy" which means, "Mastery of a more complex category required prior mastery of all the less complex categories below it" is a "stringent standard." So, the domains or sub-domains must not overlap in order to keep that "Cumulative Hierarchy." But some of the verbs of each sub-domain show frequent overlaps.

Again, Ormall (1974) found some contradictions in using the original taxonomy. For example, some knowledge based objectives are more complex than some analysis or evaluation based objectives. Krietzer and Madaus (1994) also said that synthesis is more complex than evaluation and synthesis actually requires evaluation.

The original taxonomy was influenced by behaviorist learning theories. However over the years, introduction of several new theories such as constructivism, metacognition etc has made students more knowledgeable of and responsible for their own learning and thinking. In order to include the extract of these theories into the taxonomy and to address the limitations of the original taxonomy, a group of cognitive psychologists, curriculum and instructional researchers and testing and assessment specialists revised the original taxonomy. (Anderson et al., 2001)

Anderson et al. brought some major changes to the original taxonomy in order to keep it updated and check its flaws. The new version of the taxonomy is known as the revised taxonomy.

Most notable change in the revised taxonomy is the move from one dimension to two dimensions. The revised taxonomy separates the noun and verb components of the original taxonomy into two separate dimensions: The knowledge dimension and the cognitive process dimension.

According to Pohl (2000) the names of six major categories were changed and some were reorganized. As the taxonomy reflects different forms of thinking and thinking is an active process; verbs were used rather than nouns. The knowledge category was renamed. Knowledge is an outcome or product of thinking not a form of thinking. So it was replaced by remembering. Comprehension and synthesis were retitled to understanding and creating respectively, in order to better reflect the nature of the thinking defined in each category.

3. Previous Survey

Fain and Bader (1983) carried out a research named "Challenges to Curriculum and Teaching based on Bloom's Taxonomy". There Bloom's Taxonomy is reviewed and analyzed; the summative finding being that few educational innovations have had equal impact upon the profession. The taxonomy is first defined with particular attention being paid to "Handbook 1: Cognitive Domain." Various universities' and colleges' use of the taxonomy is described. Problems of research are discussed and a review of the research provided. Problems growing from the taxonomy in terms of application are also discussed. It is suggested that, because the taxonomy has influenced such a diverse group of people as researchers, measurement specialists, curriculum developers, and teachers, the problem with the taxonomy must be recognized as one of communication. There is noted to be a wide gap between those who expose the construct and those who put it to use.

Rahman (2006) carried out a study named "A critical Investigation of the Reflection of the Learning Outcomes in the Social Science Textbooks of Secondary Level". Researcher's objective for the study was to determine whether the learning outcomes set by the National Curriculum and Textbook Board (NCTB) for secondary social science were addressed in the textbook or not. For collecting appropriate data to carry out the study, the researcher used document analysis and questionnaire as tools. For the study, the document was secondary social science curriculum as well as textbook and the researcher interviewed students in order to know whether they have achieved the learning outcomes or not. In the study, he found out that the contents of the secondary social science textbook were mainly cognitive domain based, the objectives and learning outcomes of secondary social science were not able to develop attitude, values and skills in the learners and learners were not completely able to achieve desired learning outcomes through the textbook contents. On the basis of the findings, the researcher recommended that social science textbooks should be written by social science experts and more researches should be conducted in this field.

Shahzad, Qadoos, Badsha, Muhammad and Ramzan (2011) conducted a study on Analytical Study on "Question Papers on Bloom's Taxonomy". This study was aimed to analyze the S.S.C Biology Question Papers on Bloom's Taxonomy conducted by Board of Intermediate and Secondary Education Bannu during year 2005-2009. For this particular study document analysis consist of all question papers of Biology prepared by BISE Bannu and the sample was taken last five years Questions Papers for analysis of Cognitive domain, Psychomotor domain and Affective domain categories of Bloom Taxonomy were evaluated simple frequency and percentage for each category were calculated after analysis. The major objectives of the study were: To identify the test items relating to the cognitive, affective and psychomotor domains. To explore the marks allocated to cognitive, affective and psychomotor domain. To calculate the percentage of marks allocated to cognitive, affective and psychomotor domains. To recommend some measures in order to improve quality of questions papers. For the document analysis researcher collect the last five year Biology question papers. For this purpose the researcher personally visited the Bannu Board and collect papers. After paper collection researcher analyze these papers on Bloom Taxonomy and collect results. On the basis of findings of the study researcher strongly recommends that (a) Board of Intermediate and Secondary Education Bannu should set the papers by those papers setters that they have full command on Bloom's Taxonomy. (b) Such types of papers should

prepare that develop the intellectual skill, physical movement and attitude of the leaner. (c) Question papers should be made according to Bloom Taxonomy to determine the future targets of the learner. (d) Balance should be keeping in mind during the allocation of marks among three categories (Cognitive, Affective and Psychomotor domain).

Aziz (2011) carried out a study named "Reflection of Bloom's Taxonomy in the Questions of Social Science at Secondary Level". The objectives of this study were to investigate the reflection of Bloom's taxonomy in questions of school test and board examinations of social science at secondary level in Dhaka and Comilla, to compare the level of applying Bloom's taxonomy in questions of social science at secondary level between Dhaka and Comilla board and to identify teachers' awareness of reflecting Bloom's taxonomy in preparing the open ended items of question paper. She applied semi structured interview schedule for teachers' interview and table of specification for document (question papers) analysis. Some of the findings of her study were teachers give more priority to traditional assessment techniques, teachers lack training and for that unable to bring out the good of structured question pattern and teachers are not at all aware of Bloom's taxonomy and its application. Here she recommended that proper training should be provided to the teachers to make them able to use Bloom's taxonomy properly in the assessment items and for effective classroom teaching-learning. She also suggested that assessment concepts and application techniques must be presented clearly to the teachers in order to get the best outcomes.

4. Objectives of the Study

The general objective of this study was to determine whether the learning outcomes of secondary social science curriculum had been set according to the bloom's taxonomy or not.

Following were the specific objectives of the study:

1. To categorize the learning outcomes of secondary social science curriculum according to Bloom's taxonomy.
2. To analyze the reflection of Bloom's taxonomy on the learning outcomes of secondary social science curriculum.

5. Rational

The aim of secondary education in Bangladesh is to develop necessary knowledge, skills and attitude in future citizens so that they can lead a productive and healthy life. (Malek, Begum, Islam & Riyad, 2007, p.206)

According to National Council of Education Research and Training, India (2006),

Social science form and amplify the base of human values, norms, mutual respect and trust. So the aim of teaching social science should be widening children's mental and moral power to offer children the ability to think freely and deal with social obstacles without losing values. (p.V)

To widen children's mental and moral abilities, cognitive knowledge is not enough; affective knowledge and psychomotor skills should also be developed.

Khan & Malek (2000) stated that Benjamin Bloom and his associates classified educational objectives in three categories- cognitive domain, affective domain and psychomotor domain. The objectives and learning outcomes of social science curriculum should be developed according to Bloom's Taxonomy of Educational Objectives. (p.35)

Bangladesh government has introduced a new form of evaluation system in SSC (Secondary School Certificate) Examination named creative question system, following the cognitive domain of bloom's taxonomy of educational objectives. According to ADB (2008) this new evaluation system is a milestone in the history of secondary education reform and this has already started yielding good result.

Ahmed (2009) thought that this new evaluation system will help the students to understand and practice what they have been taught and it will help them to show their originality and creativity. But if the learning outcomes of education are not aligned with the evaluation system, then the outcome will not be as thought.

According to the National Education Policy (2010) new secondary curriculum is going to be introduced in Bangladesh from 2013. So this study will help the curriculum developers to reform objectives and learning outcomes of the social science curriculum if necessary and to set up properly aligned curriculum.

6. Methodology

The study has been carried out based on descriptive mode of research. Data and evidence has been gathered from different sources for the purpose of qualitative and quantitative approaches. Quantitative data was analyzed using table of specification and qualitative data was analyzed thematically.

6.1 Population and Sample

The study was primarily based on document analysis. So the secondary social science curriculum was considered as the main element for the study. But to get an insight about the learning outcomes interview was conducted on the curriculum specialists. So the curriculum specialists of Dhaka city were the target population for the study. Convenience sampling was employed in order to select 10 curriculum specialists from Dhaka city.

6.2 Source of Data

Information and evidence were collected and recorded from two sources:

- **Document:** National Curriculum of Secondary Level has been studied and the learning outcomes of the Social Science part have been categorized.

- **Specialists:** Specialists have been interviewed in order to get insight about the learning outcome selection procedure and for their precious views on the issue.

4.3 Data Collection Tools

Two types of data collection tools were used for the study-

- **Table of Specification:** The learning outcomes of secondary social science curriculum was reviewed and categorized according to Bloom's taxonomy and set into a table of specification. There were a total of 6 tables- one for Sociology, one for History, one for Geography, one for Civics, one for Economics and one for Population education. Each table contains chapter names, learning outcomes of those chapters, which learning outcome belongs to which sub-domain, number and the percentage of learning outcomes belonging to one particular sub-domain.

- **Interview Schedule:** A semi structured interview schedule was developed for the curriculum specialists consisting 15 questions. At first, 3 specialists have been interviewed as piloting of the interview schedule. After piloting, the interview schedule has been changed and reorganized. The final interview schedule consisted of 12 questions. Finally 10 specialists have given their opinion about the learning outcomes of the present secondary social science curriculum and the application of Bloom's taxonomy on those.

7. Analysis and Findings

7.1 Analysis of Data Collected from Table of Specification

7.1.1 Overall Analysis

There were a total of 199 learning outcomes for secondary social science. The study shows that all the learning outcomes are solely from cognitive domain. There is no reflection of Affective domain or Psychomotor domain anywhere in the learning outcomes. Even from the Cognitive domain, highest priority has been given to Comprehension and Knowledge. A total of 126 (63%) learning outcomes were from comprehension and 62 (31%) learning outcomes were from knowledge. Only 10 learning outcomes were from Analysis (5%) and 1 from Application (1%). There was again no learning outcome from Synthesis or Evaluation. The pie chart below shows the percentage of learning outcomes from each sub-domain of cognitive domain.
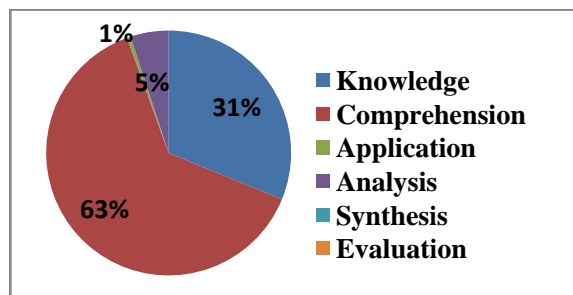

Figure 1: Percentage of Learning Outcomes

7.1.2 Subject-wise Analysis

After analyzing the individual subject areas (sociology, history, geography, civics, economics and population education) it has been found that the number of learning outcomes from each sub-domain of the cognitive domain has not been distributed evenly in any of the subject matters.

In sociology, 59% learning outcomes were from comprehension and 30% were from knowledge. Merely 11% learning outcomes were from application and analysis with no reference to synthesis or evaluation. In history, there was a huge inconsistency. 92% learning outcomes were solely from comprehension with 8% from knowledge and analysis. Application, synthesis and evaluation have been neglected in history. Geography again reflected 97% learning outcomes from knowledge and comprehension with barely 3% from analysis. Here again, no learning outcomes were from application, synthesis or evaluation. Then again, civics had 81% learning outcomes from comprehension with 14% from knowledge and 5% from analysis. Yet again, application, synthesis and evaluation had been overlooked. In economics, 96% learning outcomes reflected knowledge and comprehension. Only 4% reflected analysis and none reflected application, synthesis or evaluation. On the other hand, population education had learning outcomes only from knowledge and comprehension.

The following bar graph can picture the whole thing clearly. From this, it is easy to determine which subject has the most amount of learning outcomes and what is the ratio of sub-domain wise learning outcomes in each subject.
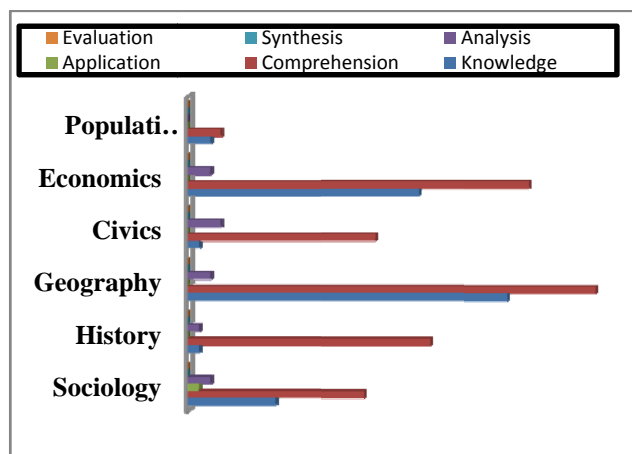

Figure 2: Subject-wise Learning Outcome Analysis

A major finding here is that in sociology only, there were learning outcomes from application. No other subject had any learning outcomes from application sub-domain. Another important finding is that most inconsistency existed in history and civics with more than 80% learning outcomes from one single sub-domain. One more finding is that, in the curriculum of 1995, comprehension had been given the highest amount of priority with a bit lesser priority to knowledge. Application and analysis had been ignored as well as synthesis and evaluation had been totally overlooked.

7.2 Analysis of Data Collected from Interview

7.2.1 Classification of Learning Outcomes

Curriculum specialists were interviewed in order to gain knowledge about their thought regarding selecting learning outcomes and using Bloom's Taxonomy in the learning outcomes. Most of the curriculum specialists (70%) agreed that learning outcomes should be classified and it should be according to Bloom's taxonomy as Bloom's taxonomy is so far the most effective classification system which covers all the areas of a learner where development is needed. Specialists, who agreed that classification is necessary, explained the necessity of classification. According to them, classification of learning outcomes will help the teachers to judge students' achievement better and make proper lesson plans and teaching aids, help the textbook and material developers to make appropriate textbooks and other materials and help the students' overall development.

All of the specialists who agreed to the classification said that the basis of the classification should be Bloom's taxonomy. They said that though there have been now a lot of different bases for selecting and defining learning outcomes, but Bloom's taxonomy is the only taxonomy which covers all three areas- knowledge, skill and attitude. So this is the best taxonomy for classifying the learning outcomes.

7.2.2 Using Bloom's taxonomy in selecting Learning Outcomes

The study also shows that, most specialists (80%) had the same opinion that the learning outcomes of the secondary social science curriculum (1995) were not set according to Bloom's taxonomy. The specialists opined that there was no balance in the classification of learning outcomes and some suggested that there should be more learning outcomes from higher order skills (analysis, synthesis and evaluation). However some specialists think that it would not be possible for the curriculum developers to develop social science learning outcomes including all the sub-domains of cognitive domain and the other domains. It is because, social science as a subject has some critical contents which needs students understanding more than any other areas of knowledge. Moreover, most of the contents of social science could not be converted into analysis, synthesis and evaluation related learning outcomes.

Another finding of the study is that teachers teach in the classrooms according to the learning outcomes. So it is necessary for the curriculum developers to set learning outcomes according to the Bloom's taxonomy for the teachers to teach effectively in the classrooms. It will also help the learners for overall development of their skills, attitudes and knowledge.

7.2.3 Consistency of the Learning Outcomes with the Assessment System

It has been found out that, the learning outcomes are not at all consistence with the assessment system. The students are being assessed through creative questions where they have to give answers of questions from knowledge, comprehension, application and higher order domains of Bloom's taxonomy. But the learning outcomes do not suggest any higher order domain. As a result, there prevail inconsistency and problem of proper curriculum alignment. The reason behind it has been found out through interview of the specialists. The reason is that secondary curriculum had been developed in 1995 and the assessment system had been changed in 2009. While changing the assessment system, the curriculum development team should have been kept in mind that the learning outcomes would no longer be consistent with the new assessment system. So they should have changed the learning outcomes as well. But as they did not do it at that time to till now, the inconsistency prevails acutely.

7.2.4 Learning Outcomes and Creativity

In the question of being creative, all the specialists said that it is not possible for the learners to be creative if the learning outcomes remain unchanged. The teaching-learning process is also being affected by these learning outcomes. The teaching-learning process will also change with the changes in learning outcomes and thus students will become creative.

8. Discussion

The findings reveal that there was poor reflection of Bloom's Taxonomy in the learning outcomes of the secondary social science curriculum. The following discussion is based on other study findings and the similarities and the dissimilarities of those with the context to this study. It is hoped that this discussion would effectively illustrate a critical view of the reflection of Bloom's Taxonomy on the learning outcomes of secondary social science curriculum of Bangladesh.

Fain and Bader (1983) found that there is a gap between the construction of the taxonomy and its application. The outcomes of this study also show that in all the contents of social science, learning outcomes from all the sub-domains of Bloom's Taxonomy cannot be used properly. 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 by the learning outcomes developers.

Rahman's (2006) study "A critical Investigation of the Reflection of the Learning Outcomes in the Social Science Textbooks of Secondary Level" showed that there is even inconsistency in learning outcomes and textbook contents.

By comparing this study on "The Reflection of Bloom's Taxonomy in the Learning Outcomes of Secondary Social Science Curriculum" with the one of Rahman, it can be said that the learning outcomes of secondary social science did not have the proper reflection of Bloom's Taxonomy and the textbooks did not have the reflection of the learning outcomes. So as a result, the students were unable to gain the desired values, attitudes and skills that they were suppose to gain through social science.

Shahzad, Qadoos, Badsha, Muhammad and Ramzan (2011) conducted study on the reflection of Bloom's Taxonomy in Pakistani SSC question papers of Biology and at the same time Aziz (2011) conducted a research on the reflection of Bloom's Taxonomy in Bangladesh SSC question papers of Social Science. Both the study had a same finding that there was poor reflection of higher order domains according to Bloom's Taxonomy. In this study however, it was found that creative questioning has given the scope for demonstrating higher order skills for the students. But as the learning outcomes are not set accordingly, so, most of the time students tend to memorize even those higher order questions' answers and pass the examinations.

From the discussion above, it is clear that the problem was in the whole education system, starting from the learning outcomes, to the textbook development, classroom practices and finally in evaluation system. The problem should be checked as early as possible through changing the whole curriculum and brining proper alignment to it. The whole curriculum should reflect the Bloom's Taxonomy in order to give the students proper knowledge, values, attitude ad skills.

9. Conclusion

This study has found out some of the shortcomings of the secondary social science curriculum of Bangladesh which was developed in 1995. The new curriculum is about to publish in January 2013 and it is said that through the new curriculum all the shortcomings of the previous curriculum have been tried to overcome. However, the findings of this study may help the future researchers to compare both the previous and the new curriculum and find out the differences between those two. It is hoped that this work will be helpful for the future researchers to gain ideas about the reflection of Bloom's Taxonomy on learning outcomes of the curriculum and work on Bloom's Taxonomy related issues.

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