

ASSESSMENT OF ACHIEVEMENT IN GRADE 8 STUDENTS IN THE SINHALA LANGUAGE

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Abstract

The study was to assess the achievement of grade 8 students in the Sinhala Language in Sri Lanka. Language skill is a vital factor influencing the achievement of students. To achieve the goals in Education the National Education Research and Evaluation Centre (NEREC) of the Faculty of Education, University of Colombo, Sri Lanka has been conducting National Assessments since 2003 in with collaboration the Ministry of Education financed by the World Bank. This study was funded by the NEREC. The main objective of the study was to determine the achievement of learning outcomes of students completing grade 8 in the year 2021 in the Sinhala Language. Thus, the test was administered in the May of 2022. Construct and validate test items to assess the achievement in expected learning outcomes in the Sinhala language of grade 8 students, Find out patterns in the achievement of grade 8 students according to their gender and school type and Find out areas of strengths and weaknesses in the achievement of grade 8 students in line with the Essential Learning Competencies (ELCs). Three parallel tests were administered and the final test was validated according to item response theory. The sample was selected using the stratified random sampling technique. It was revealed that the male performance (51.52) is lower than the female performance (57.73). And also achievement level of the male is lower than the overall mean score, while female achievement is above the overall mean value. The mean value of the students in 1AB schools is the highest. The lowest performance can be seen from the students in type 2 schools.

Keywords: *Achievement, Learning Outcomes, Grade 8 Students*

The Background of the Study

Education for All (EFA) is an international initiative first launched in 1990 to bring the benefits of education to “every citizen in every society.” To realize this aim, a broad coalition of national governments, civil society groups, and development agencies such as UNESCO and the World Bank Group committed to achieving six specific education goals: In 2000, 189 countries and their partners adopted the two EFA goals that align with Millennium Development Goals (MDGs) 2 and 3, which refer to universal primary education and gender parity. The World Bank recognizes that achieving these goals requires supporting the full EFA commitment. The Bank supports EFA through multidimensional efforts to improve educational quality and learning outcomes, Improve primary school access and equity, Improve the dropout and retention rates of girls, as well as their learning outcomes, and promote early childhood development. Therefore to achieve those goals the National Education Research and Evaluation Centre (NEREC) of the Faculty of Education, University of Colombo, Sri Lanka has been conducting National Assessments since 2003 in with collaboration the Ministry of Education financed by the World Bank. The NEREC has conducted national assessments of learning outcomes both at the primary level as well as secondary level. At the primary level, assessments were conducted at Grade 4 in 2003, 2007, 2009, 2013, and 2015. The subjects were First Languages: Sinhala and Tamil, and second National Language: English and Mathematics. At the secondary level, the National Assessments of learning outcomes were measured at Grade 8 in 2005, 2008, 2012, 2014, and 2016. The subjects were English, Mathematics and English language. The achievement of the first language was not assessed in Grade 8. Thus, it is highly essential to assess the achievement of learning outcomes of the grade 8 students.

Often the tests are the assessment tools that are used to determination of the student’s achievement relating to the cognitive domain within the quantitative research of education. Oral examinations, true-false tests, multiple-choice tests, matching tests, fill-in-the-blank exams, scales, short answer tests, written examinations, and open-ended questions are used in order to assess and evaluate the achievement of the student at all the stages and in all the fields of the education. These all test methods have superior or weak aspects involved compared to each other. However, the achievement of learning outcomes of the students depends on many factors. The intelligence of the student is one of the most important factors in achievement. Past research has shown that intelligence is a good predictor of academic success (Elshout & Veenman, 2012; Stenberg & Kaufman, 1998, Stinebrickner & Stinebrickner, 2016). Many other studies have proved that, in addition to intelligence, the personality traits of the students have a strong impact on achieving learning outcomes (Allik & Realo, 2017; Dollinger & Orf, 2021; Premuzic & Furnham, 2021).

Language skill is another vital factor influencing the achievement of students. Murray (2016) reported

that the weak language skills of students have become a problem even for Australian students. Even though the official and predominant language in Australia is English, the language skills of minority students and international students became an issue such that a national symposium was convened in 2015 by the Australia Education International (AEI) and the International Education Association of Australia. As a result of this symposium, a document on the good practice principles for English language competence for international students in Australian universities emerged. The relationship between language proficiency and academic success is well documented. Students whose language proficiency levels are not adequate to have difficulty grasping the subject matter. (Maleki & Zangani 2017). Many researchers found that students who are more proficient in the instruction language are on average more successful (Kumar, 2014; Sadegi et al. 2013). It has been argued that instruction in a non-native language creates many obstacles to student success. Students who are not fluent in the medium of instruction language that is not their native tongue have difficulty grasping course content. Therefore, assessing the achievement of the learning outcomes of the mother tongue is very essential. Thus, the assessment of the learning outcomes of the Sinhala Language will be a prominent empirical study.

Significance of the Study

Research is an information-generating activity and its result can serve as a basis for maximizing the effectiveness and efficiency of the relevant field. Students in schools have to make decisions regarding achieving learning outcomes, and co-curricular and extracurricular activities. Studies have revealed some disconcerting insights into the ways such choices are made. Therefore, this study will help the grade 8 students to identify their strengths and weaknesses in the Sinhala Language.

Learning outcomes are the cornerstones of course design and assessment, and help students focus on what is important. Learning outcomes can also be considered an inclusive teaching practice as they can help clarify expectations for all students. They make it easier for students to “know what they know”. The many benefits of using effective assessment for learning outcomes include:

- 1) Improved relationships between teachers and students.
- 2) Improved achievement.
- 3) Improved confidence, resilience, and self-esteem amongst learners.
- 4) Improved classroom culture and teaching and learning environments.

The study will reveal patterns and trends in the achievement of sub-skills of the Sinhala language. Weak areas of the sub-skills can be identified, and remedial measures can be suggested. According to the trends and patterns, further interventions can be planned.

The Main Objective of the Study

In accordance with the series of studies carried out by the NEREC related to the national assessment, the main objective of the study was to determine the achievement of learning outcomes of students completing grade 8 in the year 2021 in the Sinhala Language.

Specific Objectives of the Study

- 1) Construct and validate test items to assess the achievement in expected learning outcomes in the Sinhala language of grade 8 students
- 2) Find out patterns in the achievement of grade 8 students according to their gender and school type
- 3) Find out areas of strengths and weaknesses in the achievement of grade 8 students in line with the Essential Learning Competencies (ELCs)

Limitations of the Study

It is expected to develop four language skills in any language: Listening, speaking, reading, and writing. But this study was limited to assessing only the writing skills of the grade 8 students. The target population of the present study was limited to Grade 8 students in government schools in the Colombo district those who is medium of instruction is in Sinhala. Type 3 schools were excluded from the sample as they have classes up to grade 5. The study will be limited to 24 schools that were selected utilizing stratified random sampling. The student sample was limited to six hundred.

Sampling Methodology

The population of the present study is the students in Grade 8 in Sinhala medium classes in government schools in Sri Lanka. Looking to the wideness of the population, it is necessary to bind certain limitations.

Target Population

According to Creswell (2014), target population refers to the entire group of individuals or objects to which researchers are interested in generalizing the conclusions. Thus the target population of the study was the students who have completed grade 8 in Sinhala medium classes in government schools in the Colombo district.

Sampling Procedure

As cited by Creswell (2014) Probability sampling has a better chance of resulting in a representative sample, and according to Brink and Wood (1994:106), randomness is also associated with generalizability. Therefore random sample method was utilized for this study. Cost and time considerations have influenced the decision to limit the sample to the Colombo district, grade 8 students. In selecting the sample for the pilot test, the data analysis requirements were considered. The sampling procedure has two stages. In the first stage, twenty-four schools were selected by applying the stratified random sampling method. The stratum was the type of school. Then six hundred and twenty students who have completed grade 8 in the year 2021 were selected utilizing the same method. The stratum was gender. A questionnaire was administered to twenty-four teachers who teach the Sinhala language to the grade 8 students in the selected schools.

Construction of the Sinhala Language Paper

The test construction team comprised two university academics, ISA in Sinhala, and two teachers who teach the Sinhala language to grade 8 students. First, the team prepared a table of specifications for the following methodological procedure in preparing a test blueprint. The three parallel papers were constructed and then pilot tested in January 2021. The items for the final paper were selected after analysing the pilot test data according to the Conquest analysis. The content and face validity of the items were tested and the final paper was constructed to be administered in the first week of May 2022.

Item Selection for the Final Test Paper

The item analysis was carried out using conquest software which is based on item response theory to select valid items for the final test paper. IRT models are often referred to as latent trait models. The term latent is used to emphasize that discrete item responses are taken to be observable manifestations of hypothesized trait, construct, or attribute, not directly observed, but which must be inferred from manifest responses. The performance of an item in a test is described by the item characteristic curve (ICC). The curve gives the probability that a person with a given ability level will answer the item correctly. Persons with lower ability have less of a chance, while persons with high ability are very likely to answer correctly.

The analysis of items using IRT helps test developers to understand whether the items are successful in measuring the latent variable defined by the test and also to understand whether items tap into the same construct. The Classical Test Theory (CTT) makes inferences about a student's true score on a test. It does not generalize about the "traits levels" that the student possesses. As the CTT does not make any assumptions about the latent traits of the students, it cannot make inferences about latent traits. The IRT makes assumptions about the latent traits of students and the items are designed to tap into the defined latent variable. The Conquest provides facilities to estimate the fit statistics, item discrimination, item difficulty, point biserial correlation, item characteristic curves, item category curves, item expected curves, item information curves, etc. In terms of IRT, a good item should possess the following characteristics. Thus, the following criteria were considered in the selection of valid test items.

- 1) The fit mean square index is close to 1.
- 2) The discrimination index is higher than .4.
- 3) The point biserial correlation increases with increasing score and the point biserial correlation should be positive for the higher score category.
- 4) The average ability measure increases with the increasing score.
- 5) The observed item characteristics curve is close to the theoretical curve (ICC).
- 6) Behaviour patterns of the Distractor curves

Analysis of Data

Data gathered through the achievement test were analyzed using the conquest software and SPSS. Patterns in the achievement of learning outcomes were presented using mean, standard deviation, and cumulative percentages. Furthermore, graphs such as frequency polygons, and bar graphs were also used to present the data

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visually.

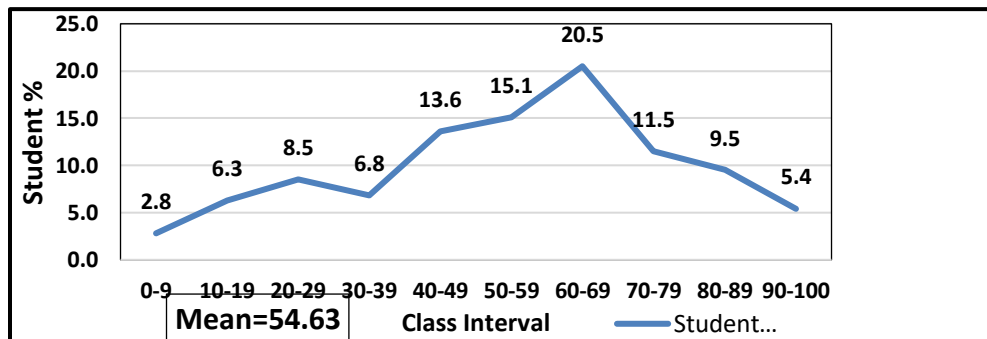
Findings

Patterns in achievement in the Sinhala Language of grade 8 students

The study was limited to the government schools in the Colombo district. First overall student achievement would be discussed about student performance in the Sinhala Language. The dispersion of marks is explained in the student cumulative percentage table given below. Achievement of grade 8 students in Sinhala Language.

Class Interval	Student Percentage	Cumulative Percentage
0-9	2.8	2.8
10-19	6.3	9.1
20-29	8.5	17.6
30-39	6.8	24.4
40-49	13.6	38.0
50-59	15.1	53.1
60-69	20.5	73.6
70-79	11.5	85.1
80-89	9.5	94.6
90-100	5.4	100.0
Total	100.00	

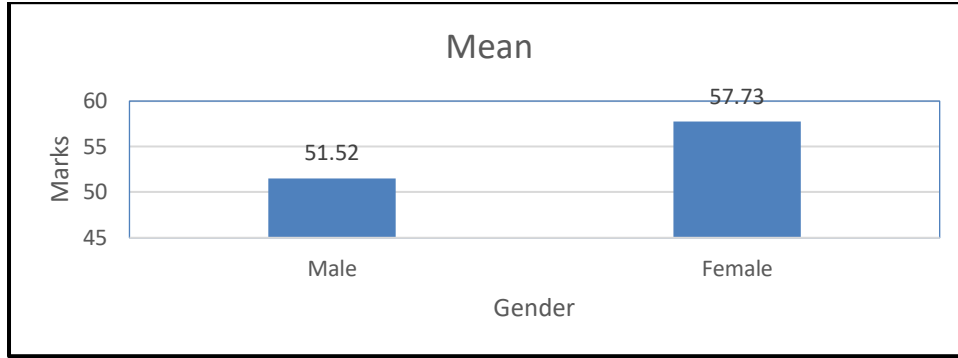
According to the table, the highest percentage of students (20.5%) scored between 60-69. However, the number of students who have scored above 80 marks is only 14.9%. There are 2.8 % of students who have obtained marks below 10.



Achievement Level by Gender

There is a difference between female and male in the achievement in grade 8 students. The overall mean value is 54.63. According to figure 4.2, male performance is lower than female performance. And also achievement level of male is lower than overall mean mark, while female achievement is above the overall mean score.

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Mean values according to gender- Sinhala language

The following table, elaborates on the disparities in the achievement of grade 8 students according to their gender. Cumulative student percentages according to gender.

Class Interval	Male		Female	
	Frequency Percentage	Cumulative Percentage	Frequency Percentage	Cumulative Percentage
0-9	3.33	3.33	2.33	2.33
10-19	7.33	10.66	5.32	7.65
20-29	10.33	21.00	6.64	14.29
30-39	8.00	29.00	5.65	19.94
40-49	16.33	45.33	10.96	30.90
50-59	14.67	60.00	15.61	46.52
60-69	17.33	77.33	23.59	70.10
70-79	9.33	86.66	13.62	83.73
80-89	10.00	96.66	8.97	92.70
90-99	3.33	100.00	7.31	100.00
	100.0		100.00	

According to the Table, the highest percentage (17.33%) of male students fall into the class interval 60-69. As well as the highest percentage (23.59%) of females falls into the same class interval. Even though there is only 19.94 cumulative percent of female students who have obtained below 40 marks, there is a 29.00 cumulative percent of male students who have obtained below 40 marks. There is a huge difference between the percentage of male and female students in class intervals 70-79.

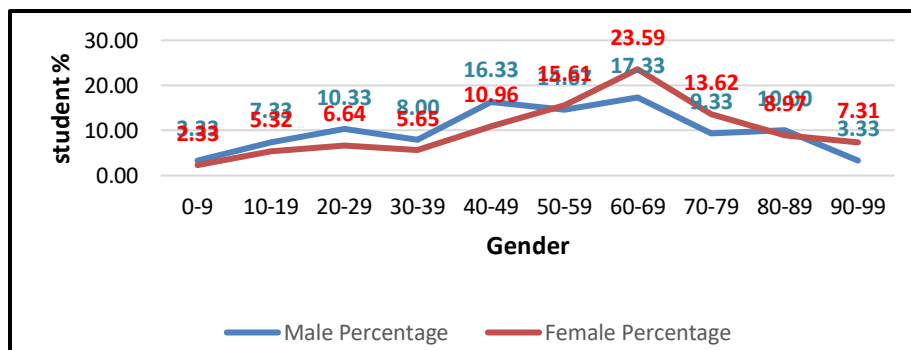


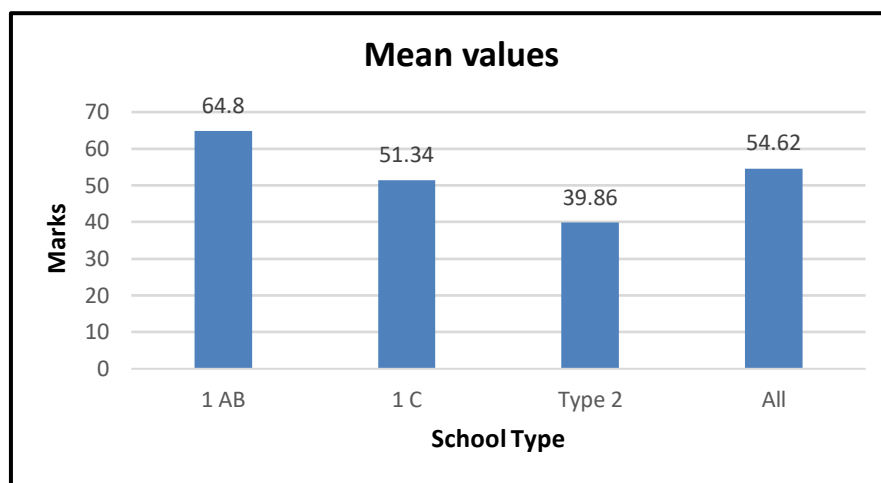
Figure 4.3, graphically depicts the dispersion of marks according to gender. Dispersion of marks by gender.

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The above graph illustrates the two curves are negatively skewed. It can be concluded that there are more high achievers than low achievers among both females and males. The pattern of the two curves is slightly similar at the beginning. Then in the middle female performance is higher than male performance. Both curves become similar again at the end. For both groups, the peak of the curve is in the same class interval (60-69). However, the highest achievers among females are higher than the high achievers of males. The same pattern of scores distribution was able to identify from the national assessment conducted by NEREC. The achievement of the students in relation to the type of the school will be discussed next.

Achievement Levels by Type of School

Mean scores were calculated to compare the achievement level of the students by type of school. The differences in mean scores are graphically illustrated in the below figure.



The mean values among the school types

The students' achievement according to the school types is further significant when the mean scores are considered in the table. The mean value of the 1AB students is the highest. The lowest performance can be seen from the students in type 2 schools. Their mean score is identical to the pass mark. It shows an unsatisfactory level of achievement. This can affect to go down the overall mean values of the students. The following table indicates the disparity in achievement according to the type of school.

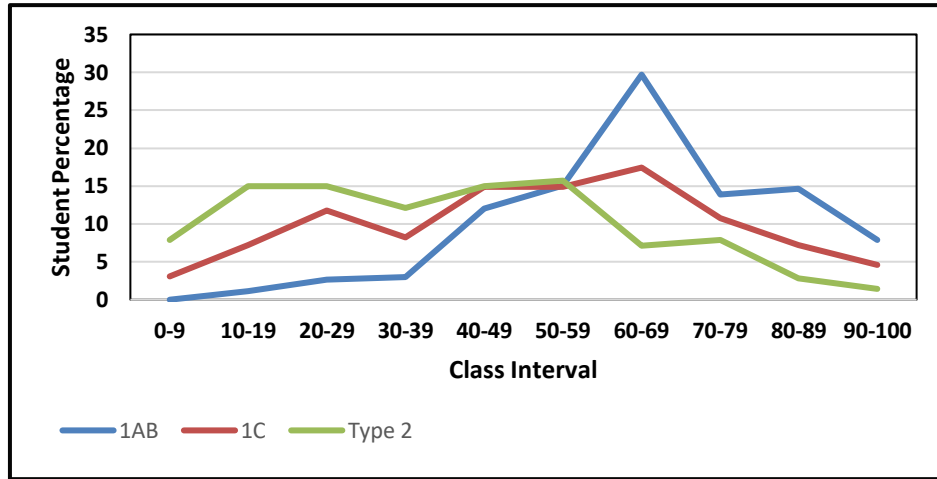
Class Interval	1AB		1C		Type 2	
	Frequency Percentage	Cumulative Percentage	Frequency Percentage	Cumulative Percentage	Frequency Percentage	Cumulative Percentage
0-9	0	0	3.08	3.08	7.86	7.86
10-19	1.13	1.13	7.18	10.26	15.00	22.86
20-29	2.63	3.76	11.79	22.05	15.00	37.86
30-39	3.01	6.77	8.21	30.26	12.14	50.00
40-49	12.03	18.80	14.87	45.13	15.00	65.00
50-59	15.04	33.83	14.87	60.00	15.71	80.72
60-69	29.70	63.53	17.44	77.44	7.14	87.86
70-79	13.91	77.44	10.77	88.21	7.86	95.72
80-89	14.66	92.11	7.18	95.39	2.86	98.57
90-100	7.89	100.00	4.62	100.00	1.43	100.00

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	100.00		100.00		100.00	
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Sinhala language achievement according to school type

As the above table indicates there is a considerable gap among the type of schools. In 1AB schools, the highest frequency percentage (29.7%) falls in the class interval 60-69. In 1C schools, the highest frequency percentage (17.44 %) falls in the same class interval 60-69. In type 2 schools, the highest frequency percentage



(15.71 %) falls in the class interval 50-59. Achievement in different types of schools are further illustrated through the frequency distribution graphs below.

Dispersion of marks of school type

According to the graphs, the low achievers are high in type 2 schools. It shows a positively skewed distribution. It indicates there are high amounts of low achievers than the number of high achievers. The other two curves of 1AB and 1C Schools are negatively skewed. But the achievement of 1C schools is also not satisfactory.

Find out areas of strengths and weaknesses in the achievement of grade 8 students in line with the Essential Learning Competencies (ELCs).

There are twelve competencies in the Sinhala Language and Literature syllabus in grade 8. This study was limited to measuring the competency levels of the students in the Sinhala language. Therefore the 10th, 11th and 12th competencies were excluded from preparing the test paper. The 1st and 2nd competencies were also excluded due they present the competency related to listening and speaking. Thus seven competencies and fifteen competency levels were considered. Item Facility indexes were calculated to identify strengths and weaknesses in each competency level. The following table presents the facility indexes of items 1-20 of part I of the paper and items 1 and 2 of part II of the paper. The last two items of part II are related to writing skills.

Competency Levels	Content area	Qs. No.	Facility values (Correct %)
5.2	Traditional terms and their meaning.	1	89.52
	Vocabulary	2	59.00
3.2	ඉහළ පාඨ	3	75.21
	Alphabetical order	4	37.60
3.1	Application of correct spelling rules	5	37.10
3.3	Types of letters in the Alphabet	6	38.27
6.2	Application of different types of verbs	7	54.68
	Mixed verbs	8	37.94
6.1	Types of Nouns	9	47.82
5.1	Similar words	10	40.10
	Opposite words	11	64.56
	Adjectives	12	42.43
	Words with multiple meanings	13	23.28
	Single word	14	23.46
3.2	සමානව පද	15	41.83
4.1	Application of correct Punctuation marks	17	68.00
6.5	Syntax-Apply grammatical rules in writing sentences	18	63.67
		19	23.00
		20	73.83
9.4	Part II	10)	83.83
	Apply language to identify cultural differences.	11)	89.52
	Reading and comprehension-	12)	92.18
		13)	55.07
6.5	Syntax	14)	53.28
1.1.2.3	Reading and comprehension- Identification of the type of the poem	20)	48.75
	Comprehension	21)	75.87
	Identification of poetic tricks	21(a)	37.94
	Writing the specific meaning	21(a)	37.94
7.1.3.1.4.2.6.5	Writing the specific meaning	21(b)	63.39
	Writing official letters	21(b)	63.39
3.1.4.2.6.5.8.1	Writing essays	3	No single word is written
		4	2.00%
			No single word is written
			6.3%

Student achievement in relation to competency levels

Suggestions

Low achievement of the students reveals the necessity to improve the quality of teaching procedures,

learning procedures, and assessment procedures. And all should provide opportunities for equitable quality education.

Quality Improvement for Teaching Procedure

Teaching learning procedure has been totally changed due to the Covid -19 pandemic. However, the responsibility of the teacher is to create a learner-centered environment in the teaching-learning process. With the expansion of the Humanistic Approach in education where the principle of “Every child is educable” is considered more important. Teacher training programmes, and capacity development activities should be implemented to strengthen the skills and instincts abilities of the teachers.

Quality Improvement for the Learning Procedure

A quality and equal learning environment should be provided. Action research can be implemented. Remedial intervention programs should be introduced. They should be addressed the nature, mental, social, emotional, and physical well-being of the students.

Quality Improvement for the Learning Procedure

The concept of “assessment for learning” should be implemented at the classroom level. Authenticity should be considered in conducting the assessment. Rubrics should be introduced specially for performance-based assessment.

References

- [1] Abdirahman, M., Abubakar, A. H., & Abukar, M. S. (2013). English language proficiency and academic achievement for undergraduate students in Somalia. *Educational Research International*, 2(2), 59–66.
- [2] Allik, J., & Realo, A. (2017). Intelligence, academic abilities, and personality. *Personality and Individual Differences*, 23(5), 809–814.
- [3] Anderson, Lorin W. and Krathwohl, David R. (Eds.) with Airasian, Peter W., Cruikshank, Kathleen A., Mayer, Richard E., Pintrich, Paul R., Raths, James, and Wittrock, Merlin C., *A Taxonomy for Learning, Teaching, and Assessing: A Revision of Bloom’s Taxonomy of Educational Objectives*, Addison Wesley Longman, Inc. 2001.
- [4] Bloom, Benjamin S. (Ed.), Englehart, Max D., Furst, Edward J., Hill, Walker H., and Krathwohl, David R., *Taxonomy of Educational Objectives, The Classification of Educational Goals, Handbook I: Cognitive Domain*, David McKay Company, Inc. New York, 1954, 1956.