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## **REPERCUSSION OF 2007- NEW CURRICULUM IN ACHIEVEMENT OF GCE (O/L) SCIENCE EXAMINATION IN BATTICALOA DISTRICT**

**K. Gnanaretnam**

*Senior Lecturer, Open University of Sri Lanka, Colombo, Sri Lanka*

[kgnan@ou.ac.lk](mailto:kgnan@ou.ac.lk)

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### **Abstract**

*Three national examinations are conducted in Sri Lankan formal education. They are GCE (O/L), GCE (A/L), and Grade 5 scholarship examination. The achievement of GCE (O/L) is paramount important for getting small scale employment opportunities, enrolling at Technical College, and for being qualified for GCE (A/L) class. Nonetheless, the statistics witnessed that the performance of GCE (O/L) is not satisfactory. Only 60% of those who sat for GCE (O/L) are qualified for studying at GCE (A/L) class and five percent of them fail in all the subjects. Only 50 % of candidates got passes in science subject. With an aim to improve this situation, the new curriculum was introduced in 2007 in Sri Lanka. This curriculum consisted of skill development and improvement of achievements of students. It also emphasized, group discussion, and changes in lesson planning and instruction by using new 5 E model to achieve required competency level. As six years passed after the introduction of new curriculum. It is the time to appraise the repercussion of the new curriculum in the achievement level of GCE (O/L) examination. The study was conducted by using survey method in the district of Batticaloa. Both the quantitative and qualitative data were used. The study revealed that the percentage of failure in the subject of*

*science was increased. This trend co-related with in all the other districts of the island. It is also revealed that the mean of the subject of science in GCE (O/L) at national level was also increased. This study included some suggestions to further improve the achievement of the students in the subject of science in GCE (O/L) examinations.*

### **Keywords**

Science, Achievement, Curriculum, Repercussion

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## **1. Introduction of the Research**

Students attend their first national level exam of G.C.E (O/L) in their adolescence. This is the harvest of their 11 years' experience of the education. There are about two hundred and fifty thousand students attend this examination from their schools as first candidate in their attempt. According to the Statistical hand book published by the Department of Examination (2008) among these students there are 6% failed in all subjects whereas, only 50% passed in science subject.

Batticaloa district is selected as the research area. There are 5 Educational zones and 344 schools including 10- National schools, 23- 1AB schools, 55- 1C schools, Type II schools 110, Type III schools 156 in Batticaloa district. Total numbers of students is 129, 577 and the teachers is 6564.

According the changes in the world education should also be changed .In 2007 a curriculum reform was introduced. With the aim to implement many changes in the education. This was the 1st reform for secondary education in Sri Lanka in 21st Century. This is based on essential competencies. Competencies are the combination of knowledge, attitudes, skills and interpersonal relationships (Ginige, 2008). This curriculum reform guided to change the teaching method from lecture method to activity based approach that improves students' competencies. It was expected that the reform should enhance thinking ability, social skill and self-skill among students. In this curriculum reform teacher should take transformation role-surpassing his previous roles including transmission and transaction. Now it came to the transformation role by actions of Head, Hand and, Heart. By these actions the above competencies will achieved (Ginige, 2008). Further the 5E method was also introduced for preparing lesson plan.

## **2. Literature of Review**

Influence factors of educational achievement curriculum. There are four major types. They are students, school, teachers and subject factors.

- Students' factors are age, strength, attitude in learning, knowledge, methods of learning, interest and motivation, language development, cultural influences etc.
- The school factors are type of school, curriculum and subject matters, text books, methods of examination, parents and society expectations, interior structure of the school etc.
- Teacher's factors are attitude, teaching methods, strength in the subject, professional development and experiences (Laughra, 2002)

Influence in the education. There are two types' interior and exterior factors. Interior factors are practicing examination, parents interest unsuitable text book, teaching techniques lack of motivation, unsuitable curriculum. Exterior factors mean, students are in poverty line, because of this reason students behavioral patterns, attitude, motivation are changed (Brimer,. 1998).

7 % of school factors , 13 % of teachers factors , 80 % of students factors are influenced in the students education achievement . And also behavioral patterns, home environment, IQ and motivations are included in this educational achievement (Marzano, 1998).

Students are given the direct instructions method. They can understand what they have taught. So the achievement will be increased. These achievements stand in their socio economic relationship (Aimee, H. & Lawrence, 2012).

The nine identified instructional strategies to increase the student's educational achievements.

- Identifying the differentiation of subject matters in the classroom.
- Taking short notes in the subject matters.
- Homework and exercises.
- More effort and identifying the needed things.
- Group learning.
- Goal and feedback.
- Different types of presentation.
- Making hypothesis and examining.

- Motivating the previous knowledge

### **3. Objectives of the Research**

01. To review the achievement of science subject in the GCE (O/ L) in National Level before and after the introduction of curriculum
02. To review the achievement of science subject in the GCE (O/ L) in Batticaloa district before and after the introduction of curriculum
03. To find out the changes in the achievement in science subject in GCE (O/L) in Batticaloa district after the introduction of new curriculum
04. To suggest ways to increase the achievement level of science subject in GCE (O/L) in Batticaloa district

### **4. Research Method**

#### **Research design**

Survey design is used in this research.

#### **Population**

The population of this study consisted of all the candidates sat for the first time in the GCE (O/L) examination from Batticaloa district. Their achievements in the Examinations were obtained from the department of examination and the zonal education offices. As this exam is conducted by the department of examination is reliable.

#### **Sampling**

The researcher should present the suggestions for the improvement of science achievement level. The suggestions were obtained from senior teachers, In Service Advisors (ISA), Assistant Directors of Education (ADE). There are five Education zones in Batticaloa district. They are Batticaloa, Batticaloa central, Batticaloa west, kalkudah and Paddiruppu. Five ADE, five ISA of Science subject and five senior teachers were selected from each zone as sample.

According their experience and knowledge they have selected by the ADE. A total of 75 were purposively Sampled including 15 from each and suggestions for improvement of the achievement in science were obtained them.

## Tools of the research

The most important research instrument was questionnaire. Self developed questionnaires were used to gather data from the sample. Data was collected under four topics including general information, changes in the achievements, the reasons for achievement changes suggestions improve the achievement. Among these, the topic on the reason for achievement changes is closely related to this research. Teacher, students, Principal and the administration are considered as the important factors effecting achievement in general examinations. 30 activities were included in relation to these factors.

This questionnaire was piloted with 20 senior teachers of Kalmunai Education zonal.

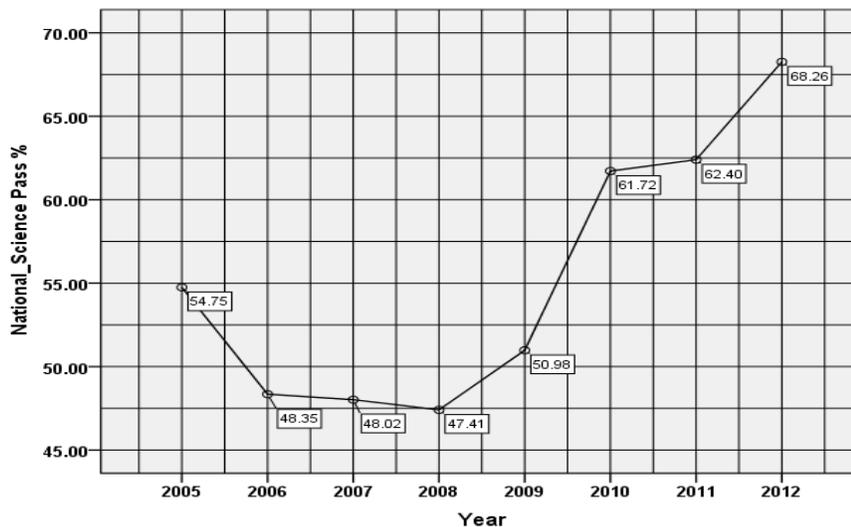
## 5. Data analysis

Data was analyzed by using SPSS software. Percentage, mean, correlation, T-Test are used for this. Statistics graph and bar chart also used to show the data.

## 6. Conclusions and Recommendation

### The changes of Passed percentages in the subject of science

The passed percentage in science subject in the G.C.E (O/L) in National level.



**Figure 1:** Passed percentage in the science subject in G.C.E (O/L) in National level

1. Pass percentage in science subject increases in National level

2. This progress is increased after the introduction of the curriculum.

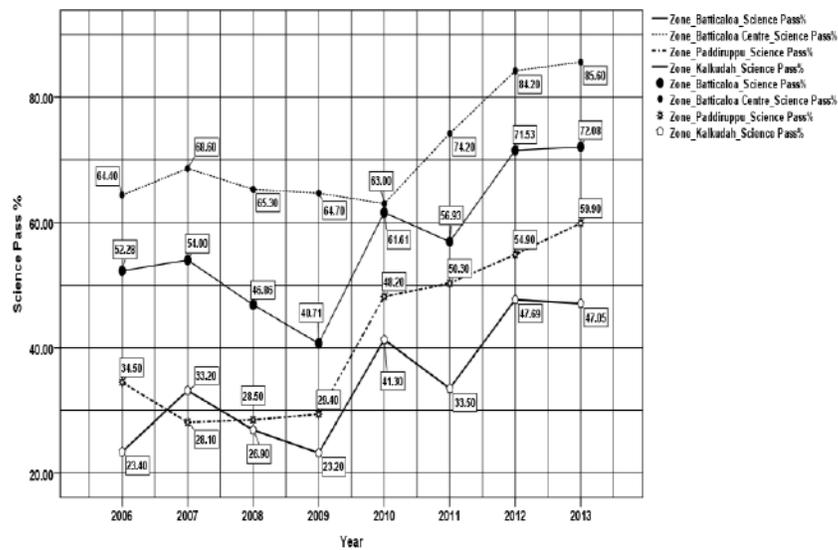
**Table 1: Mean values for subject of science, Before (A) and after (B) 2007**

	N	Mean	Standard deviation
B	3	50.37	3.79
A	5	58.15	8.66

3. Before and after the introduction of curriculum, the changes in the pass percentage in Science subject in significant at 0.05 levels.

4. Passed percentage in science subject increases in Batticaloa district.

a. The changes in the pass percentage in science subject the G.C.E(O/L in Batticaloa district



**Figure 2: Passed percentage in the subject of science in Batticaloa district**

**Analysis of the responses to the opened questions of questionnaires**

Following were identified as the major factors influence the achievement in G.C.E (O/L) examination.

- Teaching method of the teacher

- Preparation of lesson
- Students motivation by the teacher
- Completion of syllabus by the teacher
- Students attendance
- Students interest in the subjects.
- Exam procedures practiced by the school
- ISAs .Supervision and advices
- ADEs Supervision and advices
- Zonal level supervision

## **7. Recommendations**

The following recommendations were made for the improvement of achievement of science in G.C.E (O/L) examination by analyzing the results of this study, reviewing the related literature and suggestions from the subject experts.

Science is an important subject. Research should be undertaken to investigate the low achievement of this subject in national level.

Four factors influencing the achievement were identified .They are factors related to students, teachers, principal and administration. Among them, factors related to Principals were the most influencing factors. Therefore, Principals should take interest to increase the achievement. And the Zonal Directors should also take necessary action to encourage this progress.

Provincial level supervision, internal supervisions are not satisfactory. When the supervisions increase the achievement will also improve. So the Principals and the department of Education in Eastern province should take necessary action on this matter.

Homework and library learning are also not in a favorable. State Literature reviewed indicates that self-learning is more influential in students' achievement. Therefore students should take more interest in their self-learning habits to increase achievement in Batticaloa district.

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