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பன்னாட்டுத் தமிழாய்வு மின்கனிதழ்

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കൾവിയഡൾ

Exploring the Lesson planning process of Teachers Teaching Mathematics in Grade 9 In Batticaloa District Schools

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Abstract

Mathematics achievement in G.C.E. (O/L) is not up to the satisfactory level in Sri Lanka and among those facing Exam 25% of the students fail in Mathematics every year. As a result of this many students lose the higher education opportunities and this leads to massive problems. Even though there are many factors influencing in the Mathematics Achievement, this research has focused only on Lesson planning process of Teachers. In the G.C.E. (O/L) Examination, Mathematics question paper is generally based on the contents of Grade 9, 10 and 11. Further, in the text book of Grade 9, which is considered as the end of Junior Secondary Level and the beginning of Senior Secondary Level, many basic Mathematics concepts are included. So that teachers who taught in Grade 9 classes, are considered as the target group in this research. This research, which is implemented as a mixed research design based on Batticaloa District as a Research area consists four specific objectives. Batticaloa District, among the 168 teachers who teach Mathematics in Grade 9 classes, according to their versatility 112 teachers have been selected as samples by stratification based on their Educational Zones, Also, for the interview forty people have been selected based on purposive sampling from the five Educational Zones. An observation form with 12 criteria was prepared by the researcher to observe the Lesson planning process of mathematics teachers and a questionnaire with 9 questions to obtain qualitative data through self-reflection and group interviews. To analyze the quantitative data statistical techniques like Percentage and arithmetic mean. Qualitative data is analyzed by the researcher directly through thematic Analysis and Comparative Analysis techniques. The study found that teachers who were considered in the aspect of lesson planning were at a very low level.

Key Words:

G.C.E. (O/L) Examination, Mathematics, Achievement, Lesson Planning, Grade 9

Research Problem

There are six categories of teachers teaching mathematics in secondary schools in Sri Lanka. Each of these categories is likely to have different teaching methods with diverse backgrounds teach mathematics in secondary schools. This affects the development of students' mathematical concepts and achievement

Importance of Grade 9

1. Grade 9 is considered to be in the last stage of the Junior Secondary and the beginning of the Senior Secondary.
2. There are many basic Mathematical Concepts in Grade 9 text books.
3. When the students get the correct concept formation in Grade 9, they will be able to get enough understanding in Grade 10 and 11.

Objectives of the study

1. Determine the current status of mathematics teachers' lesson planning process.
2. Identifying aspects to consider when planning a lesson
3. Identifying teachers' responses to lesson planning.
4. Presenting relevant suggestions to promote lesson planning

Research Methodology

Research Design : Mixed Research Design - Explaining continuous design. This is One of the eight types introduced by Creswell (2014).

Research area : Batticaloa District (Five Educational Zone)

Target group : Teachers teaching mathematics in Grade 9

Population:

There are five education zones in Batticaloa district, namely Batticaloa, Padiuppu, Kalkuda, Batticaloa Central and Batticaloa West. A total of 168 Tamil medium teachers are teaching Mathematics in Grade 9 in 1AB, 1C and Type II schools in these education zones. All of them are the population of this study.

Sample & Sampling Technique:

The population considered was stratified on the basis of educational zones, school types, appointment types and gender and the sample size in this study was determined as 112 according to the sample size selection table of Krejci & Morgan (1970). This is 67 % of the population. Accordingly, 59 schools were randomly selected and 112 teachers teaching Mathematics in Grade 9 in these schools were randomly selected. The details of this are shown in Table 1. In addition, in order to obtain qualitative data through group interviews, eight people were selected from each educational zone; A total of 40 people from all five education zones have been selected as replacements.

Table 1 Details of the selected samples by educational zone

Educational zones	Schools	No of Teachers	Percentage
Batticaloa	18	31	27.7
Batticaloa west	9	19	17.0
Batticaloa Central	13	17	15.2
Kalkuda	6	18	16.1
Padiuppu	13	27	24.0
Total	59	112	100

Research Instruments, Data Collection Methods and Data Analysis Techniques

12-item observation form and 9-item questionnaire were prepared by the researcher to observe the curriculum performance of mathematics teachers and to obtain qualitative data through self-reflection and group interviews. The quality of the research instruments was confirmed through pre-testing and expert consultations. The quantitative data obtained were analyzed using descriptive analysis techniques and the qualitative data were analyzed using thematic and comparative methods.

Findings for the Research

Results of quantitative analysis

1. Mathematics teachers have shown less response in Lesson Planning.
(Arithmetic Mean =38.8 , SD =25.0, highest Marks= 91.7, lowest Marks= 0)
2. 43.38 % teachers have got marks in Lesson Planning less than 40

3. Figure 1 clearly shows that the scores obtained by teachers in the aspect of lesson planning are very low.

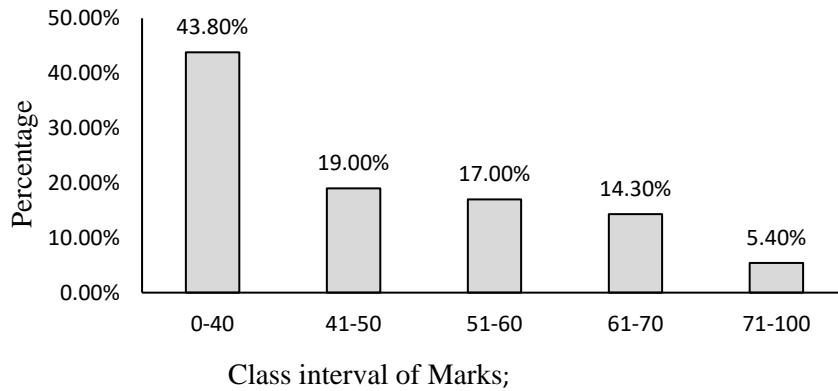


Figure 1

Details related to percentage of marks obtained by teachers in the aspect of lesson Planning

It can be seen from the figure that as the marks increase, the percentage of those who scored points decreases, and 43.80 % of those who scored less than 40 points.

4. More than 50% teachers scored less than 40 marks in 6 criteria out of 12 in Lesson Planning
Details of more than 50% scored less than 40 marks in 6 criteria out of 12 in Lesson Planning

Criteria	Low (0-40)
Consider the diversity of students	79.5%
Shown the suitable time allocation	75.1%
Choose the suitable Teaching Methods & Techniques	61.6%
Choose the suitable learning resources	56.3%
Shown the Teacher's & Students' Activity clearly	50.1%
Evaluation questions included according to the Objectives	50.0%

Results of qualitative analysis

Reflections on lesson planning

1. Most teachers do not prepare Notes of lesson. Those who do, write in different styles. None of them is clear about what is appropriate.
2. Most teachers do not give importance to teacher activity, student activity, teaching method, teaching resources, assessment and time allocation in their syllabus.
3. Many teachers write Notes of lesson as a process to satisfy the administration without aiming for the success of teaching.
4. The model of Notes of lesson differs from zone to zone. Also, teachers working in the same school have different models of syllabus.
5. The importance and necessity of Notes of lesson are not adequately explained by the mathematics teachers in the district.
6. Most of the teachers do not have a favorable attitude on writing lesson plans

Recommendations & Conclusion

1. It is the duty of the Zonal Education Directors to identify a feasible and appropriate Notes of lesson model and implement it at least at the zonal level.
2. The National Institute of Education, which is primarily responsible for the implementation of the school curriculum, should introduce a suitable Notes of lesson model at least for the secondary grades in all schools and document its implementation.
3. It is also important to provide training on Notes of lesson writing on a continuous basis with appropriate resources;
4. It is also necessary to ensure that the Notes of lesson is written in an appropriate manner during internal and external supervision in the library.
5. Teachers should be made aware during Internal and External Evaluation that writing Lesson Plan is very important

Suggestions for future research

1. This study has been conducted with Batticaloa district as the study area. It is appropriate to extend this study to other districts and nationally.
2. This study has been conducted based on teachers teaching grade 9. It is necessary to extend this to other grades.
3. A detailed study is needed in this regard for all subjects using other language source teachers as samples.
4. A detailed study is required to know the reasons why teachers are not interested in developing the curriculum.

Limitation

1. Mathematics achievement in the G.C.E. (O/L) examination can also influence the learning-teaching activities of classes from Grade 1 to Grade 11, but this study is based on Grade 9 only.
2. The content knowledge of mathematics teachers is not limited to Grade 9. It specifically extends from Grade 6 to Grade 11. However, based on the research requirement, only the questions in the Grade 9 textbook have been considered here. That is, only horizontal knowledge in mathematics has been considered here. Vertical knowledge has not been considered.
- 3 For the convenience of the researcher, Batticaloa District has been Considered as the Research area.

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பன்னாட்டுத் தமிழாய்வு மின்னிதழ்

அறிவிப்பு / Announcement

அன்பான தமிழ்ச் சொந்தங்களே

வணக்கம்.

வரும் 2025, ஜூலை மாதம் வெளிவரும் அரண் பன்னாட்டுத் தமிழாய்வு மின்னிதழ்க்கான ஆய்வுக் கட்டுரைகள் ஆய்வாளர்களிடமிருந்து வரவேற்கப்படுகின்றன.

கட்டுரை வந்து சேர வேண்டிய கடைசி நாள்- ஜூலை 10. அதற்கு பின் வரும் கட்டுரைகள் ஜூலை இதழில் இடம்பெறாது என்பதை தெரிவித்துக் கொள்கிறோம்.

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