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Causes of Mass Failure in Senior School Certificate Mathematics Examinations As Viewed By Secondary School Teachers and Students in Ondo, Nigeria.

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Abstract
The study examined the causes of Mass failure in Senior School Certificate Mathematics examinations as viewed by Secondary School Teachers and Students in Ondo, Nigeria.
The Senior Secondary School teachers and students were involved as population for the study. 100 teachers and 400 Senior Secondary two students were purposively selected. The descriptive survey research was adopted for the study. The sampled teachers and students responded to researchers-prepared questionnaire titled "causes of students' mass failure in SSCE mathematics examinations". The causes considered were those by: Teachers, Students, Parents, Society, Government, School and Examination bodies. A sample of the items in the questionnaire include: lack of frequent practice by students, Poor mathematical background, laziness on the part of students and teachers, among others. The response scales are Strongly Agree, Agree, Disagree and Strongly Disagree. Frequency counts and percentages were employed to answer the seven research questions generated. Findings indicated that 98% of teachers and 76% of students viewed laziness on the part of students as a major factor responsible for students' mass failure in SSC Mathematics examinations while 97% of teachers and 79% of students viewed lack of frequent practice by students as another responsible factor for mass failure in Mathematics among others. The identified causes could be ameliorated through enhancing the teachers' quality in terms of subject contents, providing them opportunities for further studies, attending seminars and workshops for update because their quality has significant role to play in teaching and learning of the subject.
Keywords: Mass failure, Mathematics, Performance, examinations.

1. Introduction

The performance of students in Senior Secondary Sciences in Nigeria has remained an issue of concern to all stake holders (Ajagun, 2000). The report by Ojerinde (1998) on the survey of the performance of candidates in science subjects in Nigeria over the years revealed a discernible decline. This perennial decline has remained a source of concern to science educators, mathematicians and mathematics educators (Nnaka and Anaekwe, 2004).

The Senior School Certificate Mathematics Examinations referred to in this study are the Mathematics Examinations conducted by the West Africa Examination Council (WAEC) and the one conducted by the National Examination Council (NECO). Table1 shows the pattern of students' achievement in Senior School Certificate Mathematics Examinations conducted by WAEC. The trend of achievement is for a period of five consecutive years (2006 – 2010). Students' achievements in four years (2006, 2007, 200 and 2010) were below 50%. It was only in 2008 that student's achievement was slightly above average. This has strong implications for the study of science subjects at institutions of higher learning.

Figure 1 shows the graphical representation of students' achievement in SSC mathematics examinations from 2006 – 2010. The bar chart shows the number and the trend of students that passed at credit level, ordinary pass, and failure respectively in each year considered. The height of the bars in 2008 further confirmed that the greatest achievement was recorded in that year. The abysmal achievement implies that in four consecutive years, less than 50% that made a credit pass in Mathematics are qualified to seek for admission into the University and other allied tertiary institutions. This is worrisome. Thus, the study sought the views of teachers and students on the causes of inadequate

achievement in SSC mathematics examinations in Nigeria.

1.1 Purpose of the Study

The main purpose of this study is to find out the causes of mass failure in mathematics as viewed by teachers and students in Ondo, Nigeria.

1.2 Research Questions

The following research questions were raised to guide the conduct of the study.

1. What are the views of teachers and students on the role of students as a cause for mass failure in NECO/WAEC Mathematics examinations?
2. What are the views of teachers and students on the role of parents as a cause for mass failure in NECO/WAEC Mathematics examinations?
3. What are the views of teachers and students on the role of society as a cause for mass failure in NECO/WAEC Mathematics examinations?
4. What are the views of teachers and students on the role of teachers as a cause for mass failure in NECO/WAEC Mathematics examinations?
5. What are the views of teachers and students on the role of government as a cause for mass failure in NECO/WAEC Mathematics examinations?
6. What are the views of teachers and students on the role of school as a cause for mass failure in NECO/WAEC Mathematics examinations?
7. What are the views of teachers and students on the role of examination bodies as a cause for mass failure in NECO/WAEC Mathematics examinations?

2.0 Literature Review

Mathematics is the science of number and space and the language of science and technology. It is an essential requirement by every field of intellectual endeavour and human development to cope with the challenges of life. It is also described as the queen and servant of all school subjects, since it cuts across the school curricula (Fajemidagba, 1986; and Akpan, 1987).Mathematics as a school subject affects all aspects of human life at different degrees. For instance, mathematics is relevant in economics, political, geographical, scientific and technological aspects of man because it centered on the use of numbers which is an integral component of every aspect of knowledge. Other areas where the use of numbers is predominant include: statistics, accounts, arithmetic, engineering, and so on. For example the earliest civilization of mankind came through mathematical manipulations through the use of numbers.

Mathematics is seen as the language used to describe the problems arising in most branches of science and technology. It is a subject that is related to other school subjects in areas like number and numeration, variation, graphs, fractions, logarithms and indices, algebraic processes, solution of equation and also in area and volume.
Inspite of its importance, the performance of students in the subject has been a great concern to the society. Awokoya (1975) and Fafunwa (1980) revealed in their different research studies that everyone lives in a world where science and technology have become an integral part of the world culture, therefore for any nation to be relevant; it must not over look the importance of mathematics in her educational system.Adebule (2004) submitted that there is a consensus of opinion about the fallen standard of education in Nigeria. He further stated that parents and government are in total agreement that their huge investment on education is not yielding the desired dividend. Teachers also complain of students' low performance at both internal and external examinations (Ashiaka, 2010).

Aremu and Sokan (2003) submitted that the search for the causes of poor academic achievement in Mathematics is unending. Some of the factors identified by them are: motivational orientation, self-esteem/self efficacy, emotional problems, study habits, teacher consultation and poor interpersonal relationships among students. The National Mathematical Centre, Abuja (NMC, 2009), in an attempt to revamp Mathematics teaching and learning at Secondary Schools, has successfully researched into the causes and remedies for the abysmal failure in WAEC, SSCE and JAMB Mathematics examinations. It has discovered that poor performance in the promotion/public examinations in Mathematics has more to do with the teachers' method of teaching than the content of curricular of the school Mathematics (NMC, 2009). It was this empirical background that necessitated and spurred the Center's Mathematics

Improvement Programme (MIP) project to create a new teaching methodology to enhance students' performance in Mathematics. Bolaji (2005) in a study on the influence of students' attitude towards Mathematics found that the teachers' method of teaching and his personality greatly accounted for the students' positive attitude towards Mathematics.

The importance of location to a successful academic achievement cannot be overemphasized; where the school is located determines to a very large extent the patronage such a school will enjoy. Similarly, the entire unattractive physical structure of the school building could de-motivate learners to achieve academically. This is what Isangedighi (1998) refers to as learner's environment mismatch. According to him, this promotes poor academic performance.The means or strategies employed by teachers in an attempt to impact knowledge to the learners are referred to as methodology which is another factor that could influence the students' academic performance. Sometimes when a teacher teaches and at the end of the lesson, evaluation is carried out and it is discovered that students are unable to carry out the behavioural or instructional objectives, what the teacher needs to do is to examine his teaching methods rather than looking at students as the cause.
Most untrained teachers point accusing fingers on students rather than on themselves when the students are unable to carry out the expected behaviour at the end of the lesson or in examinations. Therefore, teachers planning should include:
I. Choice of appropriate teaching material
II. Choice of appropriate teaching method
III. Intensive research on the topic to be taught
IV. Determination of the objectives for the lesson generally, peer group means a group of equals.

Sociologists apply it to groups made up of persons who are of the same age and often to groups of children or of adolescents. Peer group play a normal part in the process of socialization as they provide experiences to those who are growing up, a type that are not available in their own families. The adolescents take solace in interacting with their peers and they prefer to keep longer time with their peers than their parents. The peer group therefore has tremendous influence on the adolescent's pattern of behavior especially on their interests, attitudes, value system, emotional expressions, and interaction patterns and so on. However, the peer group's norms/standards in many cases may run foul to that of the community or society at large. Thus, when an adolescent fall into a bad group, the chances are high that his/her social behavior would change for bad rather than for good, which can influence his/her academic performance negatively.

3.0 Methodology

3.1 Research Type
The study adopted descriptive survey type using frequency count and percentage for the analysis

3.2 Sampling Technique

The target population comprised of senior secondary two (SS2) students and their teachers in both public and private secondary schools in Ondo town of Ondo state, Nigeria. A total of 400 SS 2 students and 100 teachers were selected from four secondary schools by stratified random sampling technique (100 Students and 25 teachers each of 2 Public Schools and 2 Private schools disrespectful of gender and field of study). The reason for selecting these variables was because the teacher and the students are the major stake holders in teaching and learning processes.

3.3 Data Collection procedure

Two private and two public secondary schools were randomly selected for the purpose of this study. The researchers went to the principals of the selected senior secondary schools and sought for the permission to t administer the questionnaire in their schools. After getting the approval, the researchers proceeded to the senior school 2 mathematics teachers of each selected schools for briefing and discussion after which the questionnaire was handed over to them for administration to all S S 2 students and all the teachers in their various school. The researchers then

went back to each school the third day for collection of the filled questionnaire.

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3.4 Research Instrument

The main Instrument used for this study was a researchers-designed questionnaire on teachers and students' views on the causes of students' mass failure in senior school certificate(SSC) Mathematics examinations.
The questionnaire contains two (2) sections; section A sought information on personal data of the respondents and section B contains seven (7) probable causes of mass failure in SSC mathematics examinations. Such include: Students' cause(7 items); Parent's cause (9 items); Societal cause (7 items); Teachers 'cause (8 items); Government cause (6 items); Schools' cause (5 items); and Examinations bodies' cause (3 items) that require responses of alternative options from the respondents.The response scales are: strongly Agree, Agree, Disagree and strongly Disagree. In all, the questionnaire contains forty-five (45) items seeking information about the causes of students' mass failure in SSC Mathematics examinations.

4. Results

The seven research questions raise for this study were answered using frequency count and percentage.

4.1 Question. 1
What are the views of teachers and students on the role of students as a cause for mass failure in NECO/WAEC Mathematics examinations?

On the role of Students as a cause for mass failure in NECO/WAEC mathematics examinations 96 out of 100 teachers representing 96% and 314 out 400 students representing 78.5% agreed that students' lack of frequent practice accounted for mass failure in NECO/WAEC Mathematics examinations. While 94 out of 100 teachers representing 94% and 242 out of 400 students representing 60.5% accepted that poor Mathematical background of the students lead to mass failure in NECO/WAEC Mathematics examinations. Also, 98 out of 100 teachers representing 98% and 284 out 400 students representing 71% submitted that students Laziness served as a major reason for mass failure in NECO/WAEC mathematics examinations.

4.2 Question. 2
What are the views of teachers and students on the role of parents as a cause for mass failure in NECO/WAEC Mathematics examinations?

On Parents as a cause for Students mass failure in NECO/WAEC Mathematics examinations, 88 out of 100 teachers representing 88% and 288 out of 400 students representing 72% agreed that Parental influence on Children career choice lead to failure in examinations while 86 out of 100 teachers representing 86% and 254 out 400 students representing 63.5% agreed that undeserved admission to schools serve as a major cause for students mass failure. 80 out of 100 teachers representing 80% and 258 out of 400 students representing 64.5% also agreed that parent's failure to provide their wards with adequate materials for learning mathematics lead to poor academic performance in the subject..

4.3 Question. 3
What are the views of teachers and students on the role of society as a cause for mass failure in NECO/WAEC Mathematics examinations?
The belief by members of the Society that mathematics is a difficult subject was adjudged as being responsible for students' mass failure as 90 out of 100 teachers (90%) and 266 out 400 students (66.5%) agreed. While 94 out of 100 teachers representing 94% and 296 out of 400 students representing 74% agreed that the mode of employment which is not based on merit discouraged many serious students which in turn lead to students' poor academic performance.

4.4 Question. 4
What are the views of teachers and students on the role of teachers as a cause for mass failure in NECO/WAEC

Mathematics examinations?
On the part of the teachers, 64 out of 100 teachers (64%) and 296 out of 400 students (74%) agreed that incompetent handling of some difficult Mathematics topic by the teachers gives room for students Mass failure. Also, 68 out of 100 teachers representing 68% and 274 out of 400 students representing 68.5% see teachers poor method of teaching as another factors that promotes mass failure while 70 out of 100 teachers representing 70% and 256 out of 400 students representing 64% agreed that non involvement of students in practical activities contributed to students mass failure in NECO/WAEC Mathematics examinations.

4.5 Question. 5
What are the views of teachers and students on the role of government as a cause for mass failure in NECO/WAEC Mathematics examinations?
76 out of 100 teachers representing 76% and 284 out of 400 students representing 71% agreed that payment of poor remuneration (salary & allowances) for teachers contributed greatly to students mass failure and 80 out of 100 teachers (80%) and 282 out of 400 students (70.5%) also agreed that lack of effective monitoring of teachers by the government serve as a major factors for students mass failure in Mathematics. Also, 74 out of 100 teachers representing 74% and 274 out of 400 students representing 68.5% agreed that government failure to employ adequate number of Mathematics teachers led to students failure while 74 out of 100 teachers (74%) and 300 out of 400 students (75%) believed that government failure to ensure that the teaching of Mathematics is handled by experts in Mathematics contributed to students mass failure

4.6 Question. 6
What are the views of teachers and students on the role of school as a cause for mass failure in NECO/WAEC Mathematics examinations?

On the School as a cause, 94 out of 100 teachers (94%) and 272 (68%) out of 400 students agreed that the practices of not admitting students on merit and what they are mentally capable of studying contributed to their failure while 84 out 100 teachers (84%) and 296 out of 400 students (74%) also agreed that lack of enough Mathematics teachers at primary school level to build a solid Mathematical foundation in the students served as one of the major causes of students mass failure in Mathematics examinations.

4.7 Question. 7
What are the views of teachers and students on the role of examination bodies as a cause for mass failure in NECO/WAEC Mathematics examinations?

Considering the role of Examination bodies, 86 out of 100 teachers (86%) and 262 out of 400 students (65.5%) agreed that leakage of examination questions contributed to students failure, and 88 out of 100 teachers (88%) and 264 out of 400 students (66%) agreed that the bribery and corruption on the part of supervisors also contributed to students mass failure in NECO/WAEC Mathematics Examinations.

5. Recommendations

Based on the findings of this research work, it is recommended that teachers should develop positive relationship with students and stress classroom activities, that will involve active teaching-learning process and students' participation in the class. Students should create enough time for personal practice of mathematics questions in order for it to be part of them.
Secondary schools, faculties of education, state and federal Ministry of Education, professional bodies such as the Mathematical Association of Nigeria (MAN), Science Teachers' Association of Nigeria (STAN) and other stakeholders in the education industry should organize periodic seminars and workshops for students, parents, teachers and school administrators on the need to revival the perennial poor performance in Mathematics in particular and the fallen standard of education in Nigeria in general.

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Table 1. Trends of Students' achievement in Senior Secondary Certificate Examinations in Mathematics from 2006 – 2010.

Year	No of Candidate sat for the Exam	Pass at Credit (A1-C6)	Ordinary Pass (D7-E8)	Fail (F9)
2006	1,149,277	472,582 (41.12%)	357,310 (31.09%)	286,744 (24.95%)
2007	1,249,028	583,920 (46.75%)	333,740 (26.72%)	302,764 (24.24%)
2008	1,268,213	726,398 (57.28%)	302,266 (23.83%)	218,618 (17.24%)
2009	1,348,528	634,382 (47.04%)	344,635 (25.56%)	315,738 (23.41%)
2010	1,306,535	548,065 (41.95%)	363,920 (27.85%)	355,382 (27.20%)

Source: Statistic Office WAEC, Lagos.

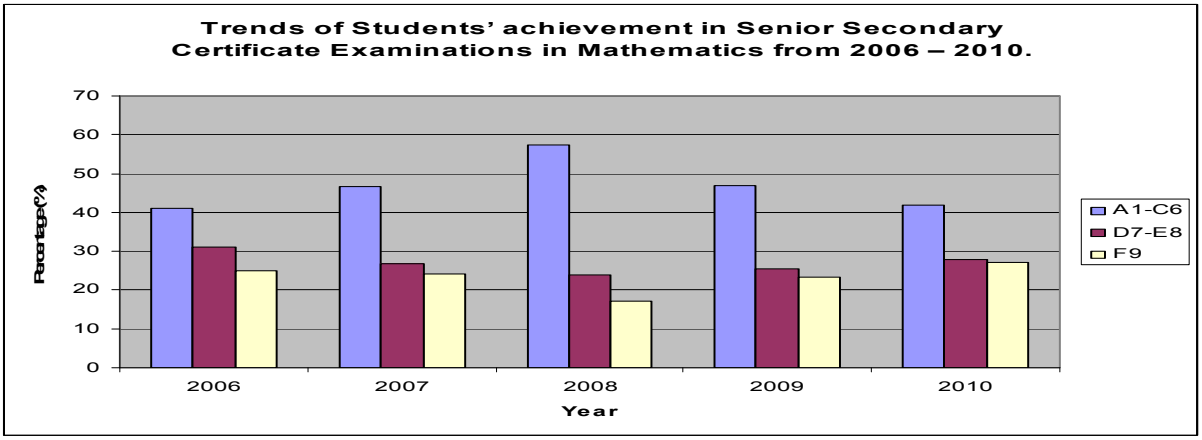

Figure 1: Graphical illustration of the trends of students' achievement in Senior School Certificate Examinations in Mathematics from 2006-2010

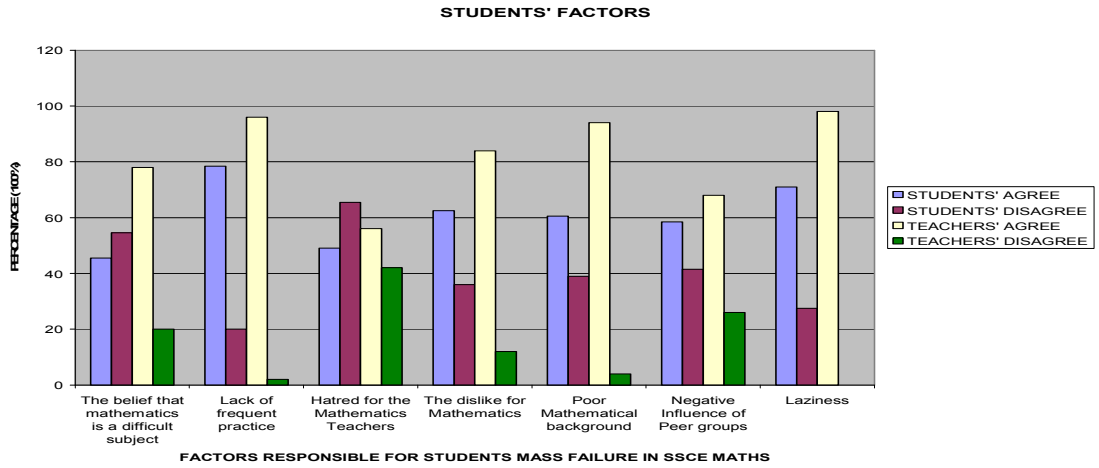

Figure 2: Graphical illustration of teachers and students views on the role of students as a cause for mass failure in SSC Mathematics Examinations.

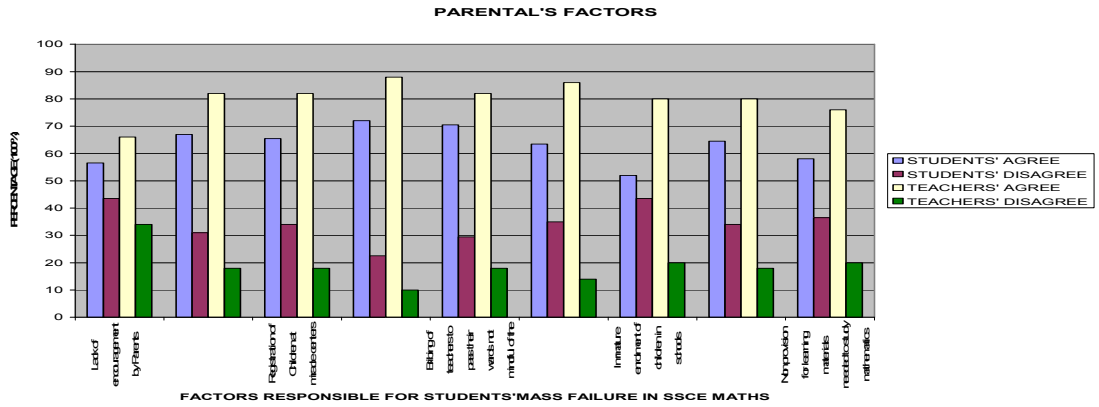

Figure 3: Graphical illustration of teachers and students views on the role of parents as a cause for mass failure in SSC Mathematics Examinations.

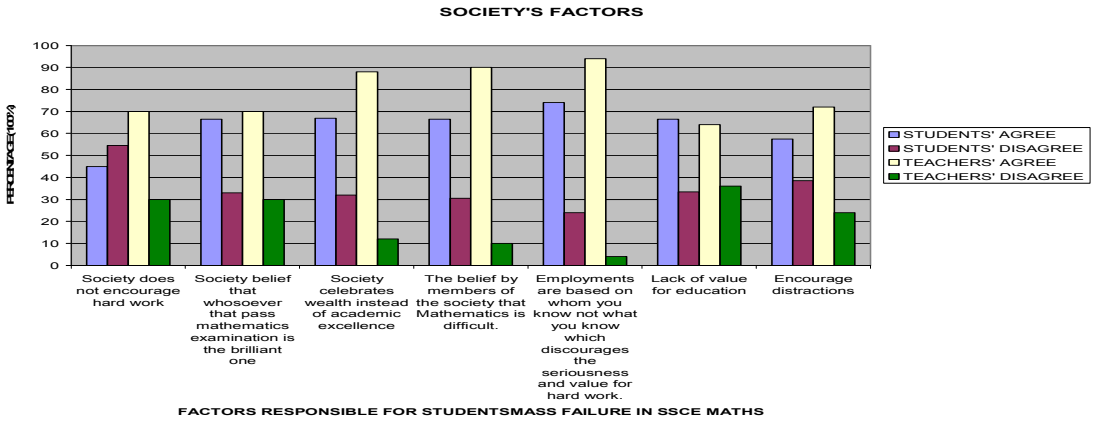

Figure 4: Graphical illustration of teachers and students views on the role of society as a cause for mass failure in SSC Mathematics Examinations.

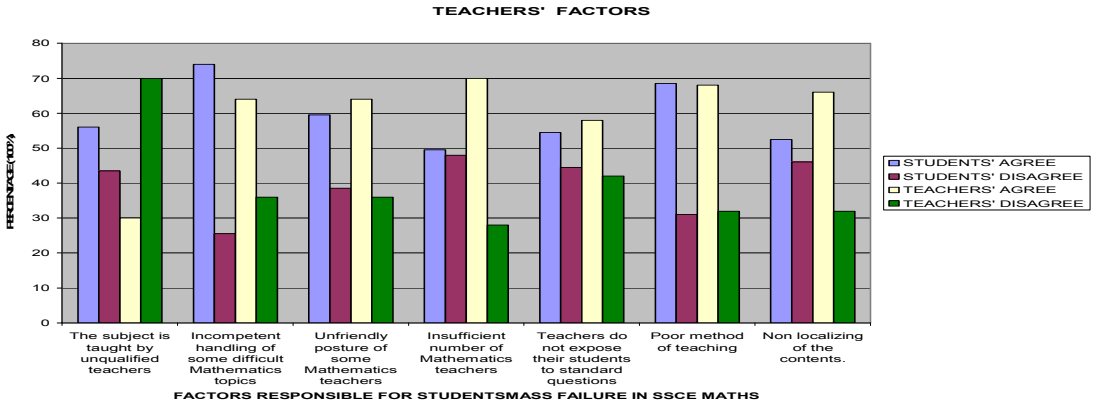

Figure 5: Graphical illustration of teachers and students views on the role of teachers as a cause for mass failure in SSC Mathematics Examinations.

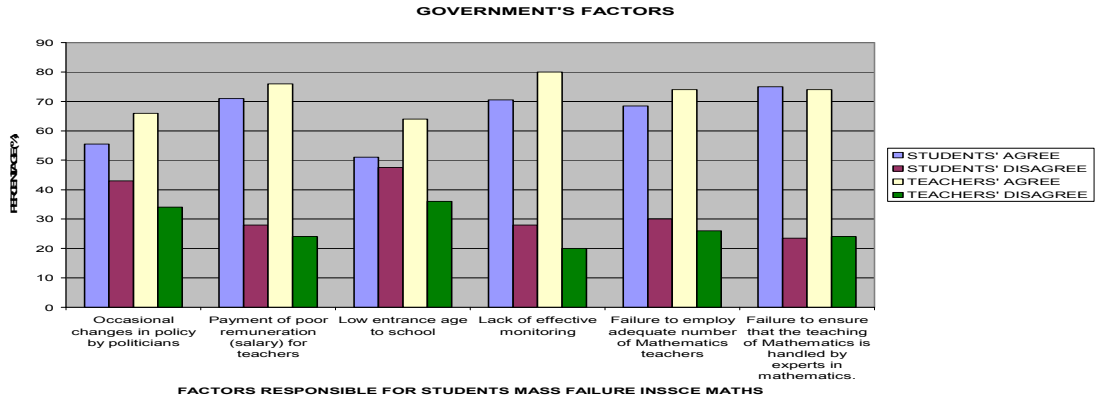

Figure 6: Graphical illustration of teachers and students views on the role of government as a cause for mass failure in SSC Mathematics Examinations.

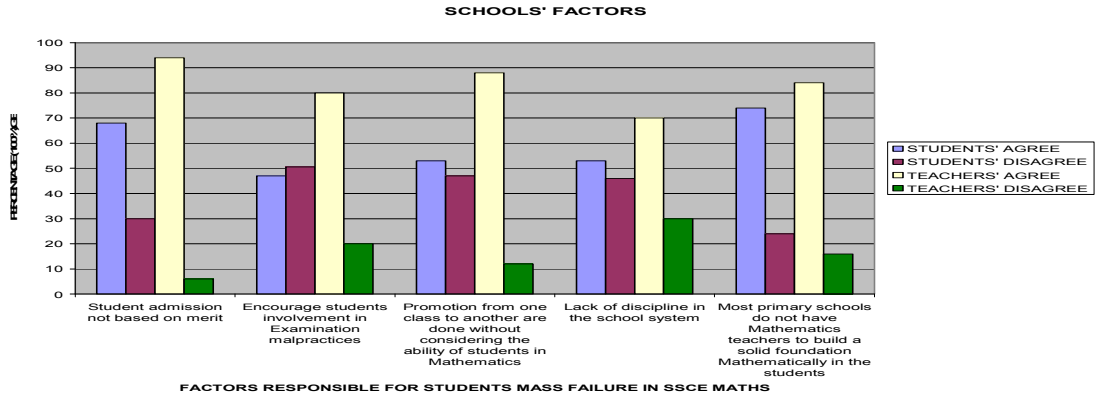

Figure 7: Graphical illustration of teachers and students views on the role Schools as a cause for mass failure in SSC Mathematics Examinations.

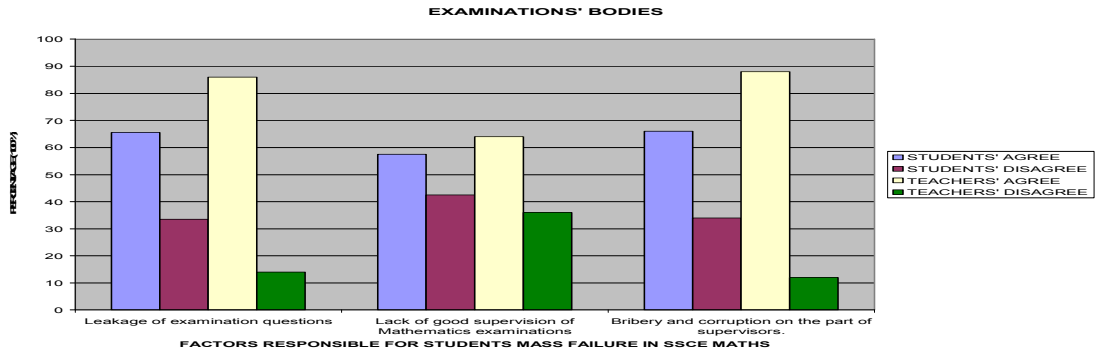

Figure 8: Graphical illustration of teachers and students views on the role of Examination's Bodies as a cause for mass failure in SSC Mathematics Examinations.