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## **Improving Academic Pass Rate Of Grade 12 From 93.6% To 96% At Saint Therese Girls Secondary School –Chilubula –Zambia.**

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### **Abstract**

This was a study of improving academic pass-rate of the grade twelve from 93.6% to 96% at Saint Therese girl's secondary school as a case study school. The main aim was to improve pupil's academic performance at grade twelve level. The school is located in Northern part of Zambia in Kasama district and it is a missions school. At the time of study it had 420 pupils with 24 teachers. The school was opened in 1966. Among the many problems that the school had, was the reduction in academic pass-rate from 100% to 93.6% which was noticed in the year 2010 with 2009 grade twelve academic results. The researcher noticed the low academic pass-rate. In the school mission there was need to maintain high pass-rate for the school. Secondly, during monitoring the school was tasked to improve the pass-rate by the Ministry of Education in 2010 through the Director of the standards and curriculum who came to school that year.

Data was collected using mixed methods of qualitative and quantitative research methods. The three instruments of data collection were structured interview which was administered to administrators and pupils. A follow-up semi-structured focus group interview was administered to teachers who were heads of the departments. The researcher also observed some lessons being conducted. The study reviewed that, the pass-rate with the use of mathematics clinics for mathematics subject and debate for English subject contributed to the change of the pass-rate from 93.6% to 95.7% at the case study school. However, the challenges were that, the use of trained teacher with a degree to teach science subjects proved to be a failure because the results dropped from 93.6% to 80% in science subject. Low percentages were noticed in pure science which was chemistry which had 72.7% and 81.8% for physics which made the researcher not to achieve but missed the targeted 96% by 3%. This was due to the fact that the school had no science teacher with a degree but depended on asking for a teacher with a degree from Mungwi Technical high school a neighboring school. Secondly, the findings of the case study cannot be generalized except in a similar situation at another school. The key recommendations were that, the government need to train and retain more science so that the case study school can have its own science teachers with a degree certificate rather than depending on asking teachers from other schools which proved a failure. There was need to continue carrying out mathematics clinics because of its positive results with mathematics subject. There was need for the school to continue improving the academic pass-rate with the use of debate in the English subject because of the positive results to the case study school. The school also needed awarding system to deserving pupils with a single digit in science, mathematics and English subjects. Pupils also needed to work hard.

**Keywords:** *change project, pass-rate, students, debate, and mathematics clinics.*

### **1. Introduction**

This study focused on improving academic pass-rate of the grade twelve pupils from 93.6% to 96%. As [15] puts it, academic pass-rate is the measurement of the number of students who do or do not pass a course. It is the first research to study at this school on how to improve academic pass-rate through the views of administrators, teachers and pupils.

The school vision aims at “offering whole education to whole person”. Then its mission states that, “Saint Therese girl’s secondary school is an institute to offer quality education to all person: spiritually, intellectually, physically, emotionally and socially; enabling the girl to contribute to society development.” In view of the above vision and mission statement, the academic area faced a down fall because the academic performance or pass rate went down from 100% to 93.6%, hence the purpose of the study to improve academic pass rate from 93.6% to 96% of the grade twelve. This was carried out with the purpose of improving the academic performance of the grade twelve at the case study school. The researcher was the Deputy head-teacher at this school.

## **2. Materials and Methods**

### **2.1 Research Aim**

The research main aim was to improve pupils’ academic performance at grade twelve level at Saint Therese Girl’s Secondary School as a case study

school. Below were the objectives set in order to achieve the research main aim. The objectives were:

### **2.2 Objectives for the study**

- To establish why pupils in grade twelve in 2009 performed poorly.
- To investigate the performance of 2010 grade twelve
- To find ways of improving the performance of 2010 grade twelve pupils.
- To implement ways of improving the performance of 2010 grade twelve pupils.

### **2.3 Questions for the study**

The questions this research aimed to answer were as follows;

- What was the academic pass rate of the grade twelve pupils in 2009?
- Was the academic pass rate for 2009 fair, good or poor?
- Why did the grade twelve performed in this way in 2009?
- How has been the current performance of the grade twelve for 2010 before writing for their final exams?
- What can be done to improve the academic pass rate?
- How do we implement the measures in order to improve the academic pass rate for grade twelve of year 2010?

### **2.4 Background of the problem / statement**

The case study was carried out at Saint Therese girl's secondary school in Northern Province of Zambia in Kasama District. It had 420 pupils and 24 teachers during the time of the research. Among the many problems that the school had, reduction in academic pass-rate for grade twelve pupils was noticed vividly in the year 2010 for the intake of 2009 of having dropped from 100% to 93.6%. according to grade twelve results analysis for 2009.

Thus, the study aimed at improving the academic pass rate of the grade twelve of the year 2010 from 93.6 % to 96% as a response to the school vision and mission statement because the academic area faced a down fall due to the fact that the academic performance went down from 100% to 93.6% and academic performance according to [15] is the pupils ability to study and remember facts or to cope with different tasks given to them by their teachers. It was also a response to the recommendation from the Director of standards and curriculum during his monitoring period, to improve pupil's academic performance pass-rate at grade twelve level. This is because evaluation after monitoring leads to sustainable improvements in schools [20] Grade twelve pupils were the beneficiaries in that improved results would make pupils after school to be enrolled easily at training institutes such as universities and colleges and become self-reliant as quickly as possible after their trainings as a benefit to them. This was because education that was being offered aimed at preparing grade twelve graduates or pupils for

employment [18]. The school also benefited from this study because the methods of improving the pass rate of the grade twelve were discovered.

### **2.5 Significance of the project**

The significance of the change project was to improve the pass rate of grade 12 pupils by raising the pass-rate from 93.6% to 96% of which the project achieved up to 95.7%. with a view that, when the grade twelve graduate with good results, it will be easy for them to enroll for trainings and later on became independent economically and financially, then contribute to the development of the country's economy.

### **2.6 The purpose of the study**

The purpose of study was focused on improving academic pass-rate of the grade twelve pupils from 93.6% to 96%. The study investigated the pass-rate of grade twelve pupils' results of the year 2009 after being analyzed by the school as a basis for implementing strategies to bring change to grade twelve pupils results of the year 2010. The study would further help other schools with similar problem of having low pass-rate with a view to improve the examinations results.

### **2.7 Limitations**

The study revealed the low pass-rate and how to improve grade twelve pupils' results from the researcher's point of view. Thus, the study was limited to one school's grade twelve result hence

the interpretation was based on the grade twelve results at a single school and not what happens with other grades and grade twelve results at other schools. Secondly, there was lack of time to carry out a similar research at another school in order to proof the findings of this research. Lastly, parents were not involved in the research who could have also contributed their point of view.

### **3 Methodology.**

A mixed method of using both qualitative and quantitative research approach was used in order to satisfy the main objective of the study and to obtain answers to the research question. By employing these two methods a more comprehensive picture was obtained. “Methodology refers to the theory of gathering knowledge, to consider the best ways, methods, by which data would provide the evidence as a basis for the construction of knowledge about whatever it is being researched and obtained” [22]. Thus, the case study was chosen and the choice of the case study was justified. The study used observation, semi-structured interview and semi-structured group interview as research instruments for data collection.

#### **3.1. Research Design**

The design was considered to be the case study for collecting information from the administrator, teachers and pupils at this school in order to give answers to the above questions. The questions derived from the research title of improving academic pass rate of the grade twelve pupils from

93.6% to 96% at Saint Therese girl’s secondary school. The case study is a generic name for the investigation of a school or phenomenon [2]. The study focused on evaluating a particular situation observed by the researcher to exist at the case study school. The researcher focused on key people involved. These were the administrator, teachers and pupils as respondents. This was done in order to triangulate data and offer a more balanced and accurate picture of responses according to their real life experiences which they had in regard to the academic pass rate of grade twelve pupils. As argued, the aim of the case study is to portray what it is like to be in a particular situation, to capture the close up reality and thick description of participants’ lived experiences of thoughts and feelings for a situation [10].

The advantage of a case study that is used at the case study school was that it focuses on a single case which can be “undertaken by a single researcher without needing a full research team” [11]. Since the research was done only at one school it was relatively small as indicated by the sample size of fifty-five respondents of which forty-eight were pupils, six were teachers and one was the administrator. The size was feasible enough for a researcher to do the research alone. It was also possible for a researcher to carry out a case study at the required depth without assistance. As [23] argued that a case study can penetrate situations which are not always susceptible to numerical analysis. The case study was in line with the study

which was aimed at improving the academic pass rate of grade twelve pupils and provides the required information for further action.

The other advantage was that case studies are a step to action, their insights may be directly interpreted and put to use; for staff or individual self-development, for within institutional feedback; for formative evaluation; and in educational policy-making [12]. This was further supported by the argument that a case study involves in-depth studies with the purpose of providing educational actors such as parents, teachers and administrators information to help them judge or evaluate the merits and worth of the policy [2]. This is because a case study takes a holistic view to any given study [23].

On the other hand, a case study can have limitations such as being “prone to problems of bias” [11]. This issue is much more likely in this research because the researcher is a teacher at the case study schools and this constitute a conflict of interest. In order to overcome potential conflicts of interests the researcher was conscience of her status and endeavored to ensure that the potential conflicts of interests were identified and addressed with the use observations, a semi-structured focused group interview and semi-structured interview and also by “avoiding leading questions and attempted to collate and interpret all the data objectively” [8]. The issue was addressed because the research paradigm was considered to be mixed design. [2] suggests that

case studies give room to “descriptive account of educational ... institutions”. Hence data from interviews included both qualitative data and quantitative data and increased the reliability and validity of this study. In this way everything was conducted in a detailed and systematic way which ensured fairness and clarity in its conclusions [2].

The limitation of a case study is that the “results may not be generalizable except where other researchers see their application” [11]. Thus the findings from this study will apply directly to the research school but if the findings are similar in other secondary school context in Zambia it can also be applicable.

### **3.2 Instrument for data gathering and procedures**

Data collection methods mean systematic ways of going about collecting data and data collection tools are relatively concrete devices used in the process of collecting information [13].

In order to collect valid and reliable data it was necessary to identify valid research approaches. In this respect observation, a semi-structured focus group interview and semi-structured interviews were employed in this study.

(a) Semi-structured interview

The semi-structured interview and observation were supported with the use of the semi-structured group interview in order to obtain valid and in-depth information. The use of more than two methods is referred to as triangulation which [16] stated can “help to converge data to support the theory”.

After permission was granted from respondents through the signing of the consent form as shown at appendix I, the purpose and time of the interview was communicated. The permission to manually record responses was also sought and granted. Then an interview was carried out. An interview schedule was used with prompts and probes to help the interviewee say what he or she wanted to say.

In this semi-structured interview, forty-eight pupils and one administrator were interviewed from the case study school. After getting permission to interview them, they were selected with the discretion of the head teachers. [21] noted that a semi-structured interview is talking to a person on face-to-face with a carefully controlled interaction where a researcher have an agenda to follow on the main areas that need to be covered. The purpose was to obtain more in depth responses than the questionnaire normally allow.

The advantage of the interview is that it is flexible, and allows greater depth in the responses to certain issues that are not manageable with a questionnaire [6]. The result is having a 100% response rate to the questions and rich data. Its disadvantage is that it is time consuming.

The full transcript of the semi-structured interview is at the appendix I.

### **(b) Observation**

Observation is a valuable tool for research in terms of data collection and is a method which solely involves the researcher in making observations. Observation technique is where people are observed within their natural setting [7]. The positive aspect about it is that it is usually flexible [7]. In other words, it does not need to be structured around hypothesis or what is expected to be observed. Observation is also strong in terms of validity [4]. It is possible with the use of observation to measure what is supposed to be measured or approximate truth of a given position. However, there are negative aspects such as; the problem of reliability and generalizability. Reliability refers to the extent that observation can be replicated while generalization or external validity refers to the extent the study findings would be true for other people in other places and other times [4]. The findings observed cannot be generalized to others because the findings reflect the unique population.

### **(c) Semi-structured focused group interview**

After the semi-structured interviews and observations were evaluated by the researcher, further data collection was carried out in order to probe responses, follow up ideas, motives and discussed further which the semi-structured and

observation left out, by using another method called semi-structured focus group interview with six teachers from the case study school. This was carried out in order to overcome bias or seeing what a researcher wants to see because of being a teacher at a case study school. According to [9] this is the interview carried out with “a group large enough to be a group but small enough for everyone to have a voice”. It is further stated that, a focused group interview is an informal discussion among selected individuals about specific topics relevant to the situation [9]. [14] also stated that “a focus group is a group of participants who are interviewed together and encouraged to share their opinions on a specific topic which is focused on the interview”. This was carried out in order to understand teachers perceptions by probing their opinions more deeply and thereby generate qualitative data.

Thus, the six individual teachers from case study school were purposely selected. The six teachers who were asked to participate in the focused group interview included the head of the departments, with the age ranging from thirties to late fifties with a good number of years of service at the case study schools. These teachers were selected because the researcher was evaluating the grade twelve academic pass rate of 2009. Thus their experience resulting from having spent many years in teaching service was necessary in this research in order for them to evaluate if there had been significant changes in the academic pass rate.

After being selected the teachers were asked if they were willing to participate in an interview. After gaining their consent the researcher explained the purpose of their meeting, afterwards the interview was carried out in the deputy head teacher’s office at the case study school and reassurance was given about confidentiality. It was manually recorded.

When the researcher met the group in their school the goal of using the focus group interview with pre-arranged questions was, to create a candid, normal conversation that addresses in-depth of the selected topic [9]. Through this conversation data was generated. As stated by [11] that “it is from the interaction of the group that the data emerge”. After data collection participants were asked for their opinion concerning what information they felt comfortable or uncomfortable with to be included in the report. Their response was that all the information should be included because of its equal importance.

The focus group session lasted for thirty minutes and their response is noted under discussion in all the sub-themes from the semi-structured interview. Some quotes were incorporated in this report as participants responses.

A full transcript of the focus group is included at the appendix I.

### **3.3 Ethics**

Researchers are required to

Strike a balance between the demands placed on them as professional scientists in pursuit of truth, and their subjects' rights and values potentially threatened by the research [11].

In other words it is important for a researcher to respect participants' rights during the research period. There were initial considerations that were addressed in particular in the collection of data. There was consideration of the right of participants to consent. [13] noted that it is important to seek informed consent from participants using consent form and information letter for them not to feel coerced. Thus, the consent was obtained from the head teachers, teachers and pupils through writing. Informed consent to participate was obtained through signing of the consent form by participants in order for them not to feel coerced but free to participate. See the consent form at the appendix I.

Thereafter, the researcher assured the administrator, teachers and pupils that all the information shared would remain confidential and that anonymity would be observed for instance their names and names would be replaced by arbitrary names. As [13] pointed out that, participants need to be assured of confidentiality and preservation of anonymity in that their identities would be masked as much as possible in the report to minimize any negative repercussions in the light of outcome of the study.

The respondents were also assured about the "matters of privacy" [11]. This was a respect accorded to the input of participants by the

researcher. Thus, participants were promised that the researcher would observe the privacy of the information they would share. In addition, participants were assured that even the information written manually would not be released to or accessed by unauthorized officers and would be destroyed immediately after writing of the final report. Participants generated immeasurable amount of rich data in this study because they liked the idea of anonymity, confidentiality, consent and privacy.

### **3.4 How teachers, administrator and pupils were involved**

#### **Sample**

Sampling is very important as a determinant of success or failure of the research. As it is noted that,

The quality of a piece of research not only stands and falls by the appropriateness of methodology and instrumentation but also by the suitability of the sampling strategy that has been adopted [11].

Purposeful sampling was ideal for this study because it fitted with the decision of targeting all the grade twelve pupils, the administrator, teachers at the case study school. The selection of some teachers and one administrator was done with the discretion of the head teachers after permission was granted to interview them. This was because the improving of academic pass rate had to be done by pupils and head of the departments and the head teacher as the administrator at case study school.

The school was selected because the researcher wanted to confirm if her speculation about the poor academic pass rate in relation to academic performance among the grade twelve could improve. The researcher felt confident that the administrator, teachers and pupils would cooperate within endeavor to generate the required data at a researcher's own school.

The head teachers for the school were contacted in order to seek permission to conduct interviews to the administrator, teachers and pupils. After permission was granted by the head teacher, the arrangement to meet respondents was made in order to ask for their informed consent. Thereafter, the respondents were interviewed. The total number of teachers were 6, one administrator and forty-eight pupils. Thus the overall number of participants came to be 55.

### **3.5 Approach for data analysis and interpretation**

The approach for data analysis of using both qualitative and quantitative is called "mixed method" [14]. In this research the approach was used in order to generate both qualitative and quantitative data in order for the respondents to establish accurately if the academic pass rate dropped and find measures to raise it.

"Qualitative data analysis involves organizing, accounting for and explaining the data; in short, making sense of data in terms of participants'

definition of the situation" [11]. This means that data can be analyzed according to the purpose of research and choice of a researcher in order to give meaning to the collected data from respondents. Because "there is no single or correct way to analyses and present qualitative data" [11]. Thus in this study qualitative data is described and interpreted. As noted, qualitative data is data that are of "narrative descriptions" [14]. The four criteria of interpretive paradigm of qualitative data applied in this study are plausibility, credibility, relevance and importance of the topic. With plausibility findings were be given a degree of credibility and acceptance, readers may also find them relevant and be seen as having an important bearing for further research [17]. An interpretive approach is used in this study because it accepts the rationality that one respondent had to be different from another respondent [17].

Therefore, analysis of interviews in this study "is not a completely accurate representation but more of a reflexive, reactive interaction between the researcher and the de-contextualized data that are already interpretations of a social encounter" [10].

Quantitative data analysis in this study is the use of statistics or numbers and interpretation based on five approaches of data analysis of the interview which includes the use of tables, bar-graphs, percentages, pie-chart and frequencies. [11] pointed out that quantitative approach is good for measuring and providing information about way people live.

**3.6 Reliability and validity of data analysis and interpretation**

Reliability is the consistency of measure while validity is the ability to measure what is supposed to be measured. Thus “whatever procedure for collecting data is selected it should always be examined to assess to what extent it is likely to be reliable and valid” [3]. In quantitative research reliability is often realized. As [11] noticed, quantitative research is a synonym for consistency. Whereas [5] noted that in qualitative research there is reliability between what researchers regard as data and what actually occurs in the researched setting concerning the degree of accuracy and comprehensive of coverage. Hinds [12] further postulated that validity relates greatly to the extent to which the measure achieves the aim of what it claims to measure.

Thus, the great strength of the mixed method in this study was that it achieved both validity and reliability. As [3] puts it that “if an item is unreliable then it must also lack validity but a reliable item is not necessarily also valid. It could produce the same or similar responses on all occasions but not be measuring what it is supposed to measure”.

**4. Findings**

**4.1 Academic pass rate**

Academic pass rate is the academic achievement, satisfactory progress resulting from academic

behaviors and it is known through standards-based assessment [15]. In other words, the school administers examinations with the standard which are specified and pupils have to reach it.

TABLE: 2.1

TITLE: 2009 academic pass rate –responses from pupils and the school administrator

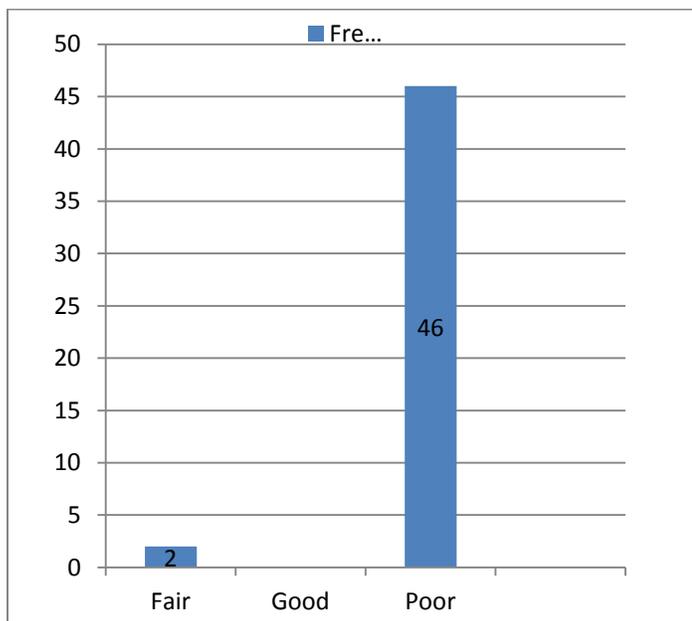
	Those who new	Those who did not know
Percentage	93.6 %	-
Frequency	49	-

All the pupils and the administrator knew the academic pass rate for 2009 as shown in table 2.1 above. This response was also confirmed in the focus group interview where teachers said that, the academic pass rate for 2009 grade twelve results was 93.6 percent.

This evidence shows clearly that the academic pass rate dropped from 100 percent to 93.6 percent. According to the findings of [20] if pupils are hardworking throughout their academic period or year it pays them off with the 100 percent pass rate. Thus, pupils needed to put more effort in their studies in order to achieve a higher percent or 100 percent.

**4.2 Rating 2009 academic pass rate**

Figure 2.2 Title: Rating 2009 academic pass rate



The specific question was asked in the interview in order to confirm if the academic pass rate for 2009 for grade twelve was fair, good or poor. Thus, 46 respondents rated the results to be poor. However, two respondents stated that the results were fair as shown in figure 2.2 in the bar-chart. The answer from the majority was confirmed during the focus group interview. This was when the teachers were asked if the results for grade twelve of 2009 was fair or poor. There was a unanimous ‘No’ for fair results and unanimous ‘Yes’ for poor results. This was followed by comments from some teachers that results need to improve because next time we may have a further lower academic pass rate than that of 2009.

The analysis of this qualitative and quantitative data implied that the respondents were not satisfied with the results for 2009. The evidence of this finding was in agreement with other observations reflected by [1] that, pupils are expected to score at a set of

percentile rank of the institution in order to scale pupils and institution numerically high and minimize complaints by teachers, parents and government than holding teachers to be responsible for the failure. Awareness of rate of the school performance in terms of academic pass rate was vital because it helped the school to move together and address the issue collectively.

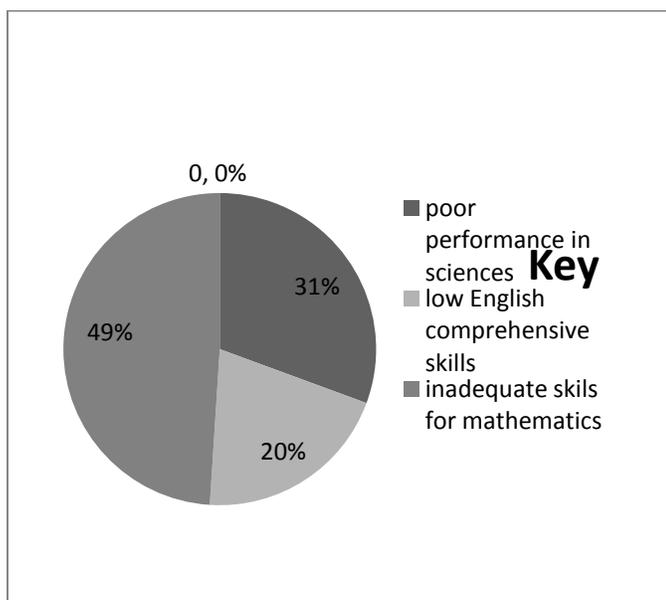
### 4.3 Reasons for grade 12 performance in 2009

The answers to the question when pupils and the administrator were interviewed in order to find out why the grade twelve performed in the way they did in 2009 were as follows; 20% of the response was that it was due to low English language comprehensive skills, 31% respondents stated that it was due to poor performance in sciences while 49% respondents attributed the low academic pass rate to inadequate skills for mathematics. The responses are reflected in Figure 2.3 in the pie-chart below.

During the focus group interview teachers were asked if English language comprehensive skills, poor performance in sciences and inadequate skills for mathematics were the reasons why the grade twelve pupils of 2009 had a low pass rate. This was confirmed to be true by all the teachers. Then four teachers justified it by saying that the reason the pupils especially those who did not perform as expected had low English language comprehensive skills, poor performance in sciences and inadequate skills for mathematics was due to their low

intellectual level which was observed even during the course of each term.

Figure: 2.3 Title: What led to grade 12 performance in 2009



The data reviewed that, low English language comprehensive skills, poor performance in sciences and inadequate skills for mathematics which resulted from low intellectual level of pupils who did not perform as expected were the main cause of the school having low academic pass rate. Despite of the pupils having low intellectual level, they needed to work extra hard and more help from teachers in order for them to perform well. Then the other importance of the generated data was that it brought to light the descending order of difficulties that pupils experienced in the academic subjects. Thus, more difficulties were observed in mathematics skills, followed by science skill and lastly, comprehension of English language skills. The data also brought to light or established the

reasons for poor performance of grade twelve of 2009 as low level of intelligence, lack of hard working by pupils and lack of help from teachers.

#### 4.4 Current performance of 2010 grade twelve pupils

The following question was asked ‘How has been the current performance of the grade twelve for 2010 before writing of their final exams?’ The administrator responded that, it has not been so good because pupils are still having problems in Science and Mathematics subjects. Then, the pupils were asked about their performance as individuals. Thus, 25 pupils expressed having difficulties in mathematics, 16 pupils having problems in sciences and 7 pupils having difficulties in all the three areas that was mathematics, sciences and English subjects. This was reflected in the Table 2.4 below.

Table 2.4

Title: Current performance of 2010 grade twelve pupils

	Administ rator	Pupils	Pupils	Pupils
Not so good because of the area of difficu	Science and Mathem atics	Inadequ ate skills for Mathem atics	Poor perform ance in Science s	Mathema tics, Sciences and low comprehe nsive English

It				language skills
Frequency	1	25	16	7

Though the answers were given from the administrator and the pupils, there was need for closer examination from the teachers. Thus, during the focus group interview teachers were asked if pupils in grade twelve in 2010 were having difficulties and failings in Mathematics, Sciences and English. The teachers’ responses confirmed the failings and difficulties experienced by pupils as obtained during the semi-structured interview. One teacher said that seven pupils experience the failings and difficulties because of their low intelligence which affect them in grasping academic concepts both theory and practical with less difficulties. Then another teacher stated that, other pupils who are having difficulties in Mathematics 25 of them and Sciences subjects 16 of them just need more help and to work hard because intellectually they are fine.

This data reviewed that the current performance was not very good and the same problems experienced by the grade twelve of 2009 of low intelligence resulting in having low English language comprehensive skills, poor performance in sciences and inadequate skills for mathematics was experienced even by grade twelve of 2010 and the area of difficulties were in the similar descending order starting with Mathematics followed by Sciences and lastly English language. Hence, there

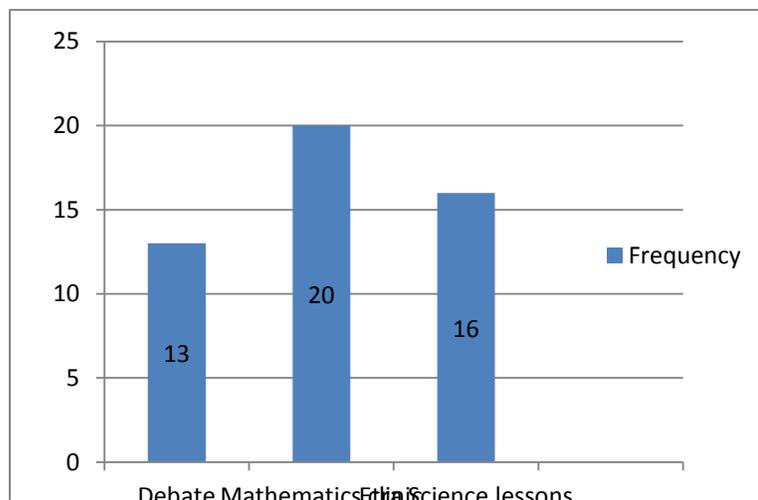
was need to help pupils in these three areas of academic subjects.

#### 4.5 Measures to improve the 2010 grade twelve academic pass rate

The pupils and the administrator were interviewed and the question was put before them regarding the suggestions that would improve the academic pass rate of the grade twelve pupils. In Figure 2.5 in the bar-chart below, 13 pupils strongly suggested that they should have debate among themselves, with other grades and schools, 20 pupils proposed that they should have extra learning time with their Mathematics teachers and lastly, 15 pupils and the administrator suggested that the teacher who are specialized in sciences with a degree qualifications should be coming over the weekends to teach the pupils science at school and the school had to foot the bill.

Figure 2.5

Title: Measures to improve academic pass rate



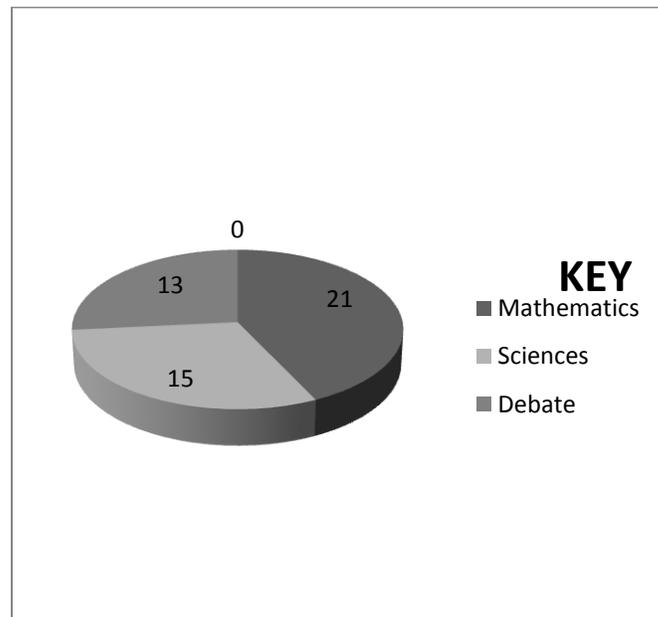
The majority suggested Mathematics clinic because twenty of the respondents proposed the idea. This was followed by the suggestion of having Extra science lessons and lastly debate was proposed. The three suggestions were probed further during the focus group interview. In their response all teachers stated that the suggestions were appropriate because Mathematics clinic would improve their inadequacy skills in Mathematics subject, extra Science lessons would bring about good performance in Science subjects and lastly, debate would as well improve their English language comprehensive skills.

The findings showed the three suggestions or interventions which were proposed. This was similar with the findings which were stated that, a long-term solution of the problem must be suitable interventions at school level [18]. However the findings left out the awarding of pupils with outstanding performance as a booster for their good performance specifically in all the three difficult subjects.

**4.6 Implementing measures in order to improve grade twelve pass rate.**

Figure 2.6

Title: Implementation of measures to improve grade twelve pass rate for 2010



The administrator and the pupils were asked on how to implement the measures. The responses are indicated in Figure 2.6 in the pie-chart above. It shows that 21 responses were for the idea of implementing Mathematics clinic which is the workshop that has to be carried out once per week between teachers of mathematics department and the pupils with the sole purpose of finding ways of solving mathematics calculations or problems. This was assigned to mathematics department. Then, 15 responses were that they needed Science teachers with a degree qualification. These teachers were needed to be invited from Mungwi Technical high school from Mungwi district within the Northern province to come and start teaching extra lessons during the weekend four times per term to the grade 12 pupils doing sciences alongside with all the teachers for Science department. The teachers under Science department were assigned with the responsibility of implementing this response

together with administrators in terms of financial and material provisions. Lastly, 13 responses were that, the grade twelve pupils should be having debate among themselves, with other classes and other high schools such as Kasama Girls secondary school, Maloleboys secondary school, Lubushi seminary for boys.

When the researcher asked the teachers if the implementation measures were appropriate in order to raise the pass rate for grade twelve, in their opinion the implementation strategies were suitable. One teacher stated that for instance Mathematics clinic will enable pupils have the necessary mathematics skills needed. Then another teacher had put it that Science lessons would give the skills needed for Sciences not only to pupils but teachers as well. Then the other teacher thoughts were that, debate would improve pupils English language comprehensive skills as they discuss openly with others.

The importance of the generated data was that, ways of raising the pass rate were discovered that of Mathematics clinics, extra Science lessons and debate for English subject and were implemented.

In conclusion, the three measures were implemented or practically carried out as planned. This was observed by the researcher. The teacher with a degree certificate in Science subject from Mungwi technical high school taught the grade 12 pupils in the presence of their teachers for Science subject four times per term. Mathematics clinic was

carried out once per week. Debate was done among the grade 12, with other grades and schools these were Kasama Girls High School, Malole Boys Secondary School and Lubushi Seminary boys school.

## **5 Discussion**

This section will provide the results of the key findings as achievements and the implications of these findings also the limitations or challenges of the study would be pointed out.

### **5.1 The Results**

The change project achieved its main aim of improving the performance of grade 12 pupils by raising the academic pass rate of grade twelve pupils of 2010. The pass rate was changed from 93.6% as reflected in 2009 to 95.7% in 2010 on the results analysis sheet for grade twelve pupils. This was made possible because of the following interventions and their outcomes as discussed under achievement. Although the percentage targeted was not reached due to the reasons discussed under challenges.

### **5.2 Achievements**

Due to the implementation of Mathematics clinic which is the workshop that was carried out once per week between teachers of mathematics department and the pupils with the sole purpose of finding ways of solving mathematics calculations or problems. This measure has proved to be successful

and was one of the achievement because according to the results analysis the progression of mathematics results was from 76.5% in 2009 to 82.9% in 2010.

The second achievement was that 100% pass rate for English subject was maintained and there was also slight increase in Literature in English from 96.2% in 2009 to 96.8% in 2010. This was due the implementation of debate among the grade twelve themselves, with other classes and other high schools and these were Kasama Girls secondary school, Malole boys secondary school and Lubushi seminary for boys school.

### **5.3 Challenges or limitations of this case study**

The first challenge was that the percent targeted was not achieved because there was poor performance in Science subjects due to the fact that there was no change in science subject as it was indicated on the results analysis sheet. Instead there was a down fall from 93.6% in 2009 to 80.0 in 2010 in Science with a difference of 13.6%. Then in pure science which was undertaken for the first time although every one passed the pass rate were low, for chemistry there was 72.7% and 81.8% for physics subject. The failure was noticed even though there was intervention of pupils having the extra lesson while using Science teachers with a degree qualification. These were the teachers who were invited to teach extra lessons during the weekend four times per term to the grade 12 pupils doing sciences alongside with all the teachers for Science department. The

teacher with a degree came from Mungwi Technical high school from Mungwi district within the Northern province. As a result the drop in science of 0.3% which was not achieved in order to meet the targeted 96 % pass rate.

The second limitation was that the research project focused on the case study schools in Northern Province of Zambia and there were 55 respondents of which 6 were teachers, 48 were grade twelve pupils and one was the administrator. It is therefore not possible to draw broad generalizations about the methods of raising the academic pass-rate used at the case study school in other secondary schools in Zambia generally. However, case studies such as this can “provide insights into other, similar situations and cases” [11].

The third limitation of this study was lack of time during the change project case study to conduct a similar research with another grade twelve class at another secondary school and compare the results based on the key points of this study.

The final limitation of the study was that, it focused exclusively on teachers, the administrator and pupils leaving out the parents. This was intentional since there has not been any research studies carried out at school level focusing on the administrator, teachers and pupils on the improvement of the academic pass-rate of the grade twelve. The aim was to involve the administrator, teachers and pupils in initiating evaluation leading to sustainable improvements in

the school [20]. Although parents' perspective could have reviewed whether the academic pass rate was improved or not because of being the direct beneficiaries of the performance of their children.

## **6.0 Conclusions and Recommendations**

### **6.1 Introduction**

This final section provides conclusions of the key findings and the implications of these findings and the limitations of the study. Areas for future research as identified and recommendations for future practice are provided.

### **6.2 Conclusions**

The overall aim of the study was to improve the performance of grade 12 pupils by raising the pass-rate at the case study school. In order to achieve the overall aim, the study aimed to ascertain the answers to the following questions:

What was the academic pass rate of the grade twelve pupils in 2009?

Was the academic pass rate for 2009 fair, good or poor?

Why did the grade twelve perform in this way in 2009?

How has been the current performance of the grade twelve for 2010 before writing their final exams?

What can be done to improve the academic pass rate?

What ways do we implement in order to improve the academic pass rate for grade twelve of 2010?

These questions were addressed as highlighted below:

### **6.3 Academic pass rate**

The findings of this study about academic pass rate for the grade twelve in 2009 was 93.6 percent and it was in agreement with the findings of [1] that pass rate is the academic achievement and reflect the quality of education being offered at school. This conclusion highlights that, the pupils needed to study hard. This is because hard work pays off for pupils who work hard with the 100 percent pass rate [1].

This research has suggested the need to improve the pass rate through hard working academically both by pupils and teachers.

### **6.4 Rating 2009 Academic pass rate**

The responses from the observations, focus groups and interviews carried out to teachers, pupils and the administrator reviewed that the results were poor in terms of pass rate for scoring 93.6% and respondents were not satisfied because it brought shame to the institute. This is similar to the findings according to [1] that, pupils are expected to score at a set of percentile rank of the institution in order to scale pupils and institution numerically high and minimize complaints by teachers, parents and government and holding teachers to be

responsible for the failure. However, the study brought to light or gives the perception that there was need to work together and improve the situation since performance was poor.

### **6.5 Reasons for grade twelve performance in 2009**

The information generated in this study indicated that, the reasons for poor performance of grade twelve in 2009 was due to having low English comprehensive skills, inadequate skills for Mathematics, and due to poor performance in sciences. The reason for this poor performance was attributed to low intelligence of some pupils and lack of help from teachers. The findings were similar to the findings that low intelligence make pupils have poor abilities to grasp the class materials which leads to difficulties in some subjects [15]. Despite of the pupils having low intellectual level, they needed to work extra hard and more help from teachers in order for them to perform well. Then the other importance of the generated data was that it brought to light the descending order of difficulties that pupils experienced in the academic subjects. Thus, more difficulties were observed in mathematics skills, followed by science skill and lastly, comprehension of English language skills.

Thus, the study brought to light or established the reasons for poor performance of grade twelve of 2009 as having low English comprehensive skills, inadequate skills for Mathematics, and due to poor

performance in sciences. The study also identified the order of difficulties in terms of subjects beginning with Mathematics, Science, and lastly English.

### **6.6 Current performance of grade twelve pupils for 2010**

The study shows that, the area of difficult for grade twelve in 2010 was the same as those of the grade twelve for 2009. The areas established were poor performance in Science subjects, having inadequate skills for Mathematics and low comprehensive English language skills. The study also identified the order of difficulties in terms of subjects beginning with Mathematics, Science, and lastly English experienced by pupils. The poor performance was confirmed to be due to low intelligence which affected them in grasping academic concepts both theory and practical with difficulties. This was similar to the findings of the Ministry of Education who stated the need to strengthen science and mathematics and other difficult subjects to learners in order to increase the understanding of theory and practical concepts in these subjects [18]. However, pupils needed more help from teachers and to work hard.

The study established that the performance of the grade twelve for 2010 was poor. Thus the study suggested the need for teachers to help pupils with difficulties and pupils to work hard in Mathematics, Science and English as their area of difficulties if the pass rate was to improve.

### **6.7 Measures to improve 2010 grade twelve academic pass rate**

The responses to the issue of measures were identified as follows; for mathematics extra time for learning using mathematics clinic was proposed, for English subject debate was proposed were the grade twelve had to debate among themselves, with other classes and other schools, for Science subjects the need to have extra lessons with the degree science teacher to teach both teachers and pupils was adopted.

The findings showed the three suggestions or interventions which were proposed and these were debate, mathematics clinic and having extra lessons by science teacher with a degree. This was in line with the findings which were stated that, a long-term solution of the problem must be suitable interventions at school level [18]. However the findings left out the awarding of pupils with outstanding performance as a booster for their good performance specifically in all the difficult subjects.

### **6.7 Implementing measures in order to improve grade twelve pass rate.**

The responses from the respondents were that they needed Science teachers with a degree qualification. These teachers were needed to be invited from Mungwi Technical high school from Mungwi district within the Northern province to come and start teaching extra lessons during the weekend four times per term to the grade 12 pupils doing

sciences alongside with all the teachers for Science department. The teachers under Science department were assigned with the responsibility of implementing this response together with administrators in terms of financial and material provisions. The next response was that, the grade twelve pupils should be having debate among themselves, with other classes and other high schools such as Kasama Girls secondary school, Malole boys secondary school, Lubushi seminary for boys. Then the last response was that of the idea of implementing Mathematics clinic which is the workshop that has to be carried out once per week between teachers of mathematics department and the pupils with the sole purpose of finding ways of solving mathematics calculations or problems. This was assigned to mathematics department

The three measures were implemented or practically carried out as planned. The teacher with a degree certificate in Science subject from Mungwi technical high school taught the grade 12 pupils and teachers for Science subject for four times per term. Mathematics clinic was carried out once per week. Debate was done among the grade 12, with other grades and schools these were Kasama Girls High School, Malole Boys Secondary School and Lubushi Seminary boys school.

The study has brought to light the teaching of English using the context such as debating contexts which improved the pass rate, mathematics clinic helped learners to by-pass the problems in

mathematics through assistance from the clinic which if not received pupils would fail. However, using the trained teachers with a degree did not help learners to be comfortable with science, physics and chemistry because pupils had more difficulties on how to deal with abstract concepts. The findings were not in line to the findings which stated that, qualified teachers need to work with pupils for them to excel academically [19]. As result, 96% which was targeted was not achieved due to 0.3% which was not achieved because the project achieved 95.7%.

## **6.8 Recommendations**

This study was about the administrator' teachers' and pupils' improve the academic pass rate of the grade twelve for 2010. It revealed that the pass rate with the use of mathematics clinics for mathematics subject and debate for English subject has contributed to the change of the pass rate at the study school. However, the use the trained teacher with a degree to teach sciences subjects has proved a failure because the results dropped which made the research not to achieve the targeted 96 percent. This was due to the fact that the school has no teacher of its own with a degree but depended on asking the teachers from Mungwi Technical high school.

Thus, the recommendations required for the improvement of the academic pass rate of the grade twelve level at the case study school were in the following manner.

(a)There is a need for the government to train and retain more science teachers so that the case study school can have its own science teacher with a degree certificate rather than depending on asking for teachers from other schools which proved a failure.

(b)There is a need for the school to continue carrying out mathematics clinics because of its positive results with mathematics subject.

(c)There is also a need for the school to continue improving the academic pass rate with the use of debate in the English subject because it proved to be successful in improving the pass rate at a case study school.

(d) There is need for pupils in grade twelve to work extra hard. Thus, in order to achieve this there is need for the school to introduce specifically the awarding system to pupils who are doing fine or having a single digit in Sciences, mathematics and English in order to encourage pupils to work extra hard and compete among themselves which would eventually lead to the improvement of the pass rate.

(e) Lastly, this study focused on “improving the academic pass-rate of grade 12” from 93.6% to 96% at saint Therese girls secondary school-chilubula. The study aimed at improving the performance of grade 12 pupils by raising the pass-rate. The following was recommended for a further research.

To conduct a research with another with another class of grade 12 at a different school then compare the results with this case study in order to confirm or challenge the findings of this case study. This is because the findings of these two case studies would help in finding ways or measures that are needed to be paid attention to in order to improve the performance and pass rate at grade 12 level.

When all the above are implemented, then pupils needs would be addressed adequately with adequate and equitable funding from the government as school grants [8].

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**APENDIX I**

**CONSENT FORM FOR THE PARTICIPANTS**

I ----- a **teacher, pupil, and an administrator** agree/disagree that I will take part in the answering of the semi-structured interview and focus group interview here by giving permission to Annie Penda ( researcher student) to approach me at my school.

I have fully understood from the introductory remarks that the information I will share will be kept confidentially, Privacy will be observed and that the school and names of participants will remain anonymous during this study. I am granted the right to withdraw from the study any time without being accountable.

I have accepted/ not accepted to be contacted any time concerning this study at a later stage.

Participant’s Name-----  
-----

Signature-----  
-----

Date-----  
-----

Place-----  
-----

**SEMI-STRUCTURED INTERVIEW FOR PUPILS**

**SUBJECT: IMPROVING ACADEMIC PASS RATE OF GRADE 12 PUPILS**

**FROM 93.6% TO 96% AT SAINT  
THERESE GIRLS SECONDARY**

**SCHOOL-CHILUBULA**

**Dear Respondents (Pupils),**

You have been selected to be interviewed in order to improve academic pass rate from 93.6% to 96% as grade twelve pupils. The information you will provide will be treated with utmost confidentiality.

**2009 ACADEMIC PASS RATE**

1.What was the academic pass rate of the grade twelve pupils in 2009?

**THE RATE OF 2009 ACADEMIC PASS RATE**

2.Was the academic pass rate for 2009 fair, good or poor?

**REASONS FOR GRADE TWELVE  
PERFORMANCE IN 2009**

3. Why did the grade twelve perform in this way in 2009?

**CURRENT PERFORMANCE OF 2010 GRADE  
TWELVE PUPILS**

4. (a)How has been the current performance of the grade twelve for 2010 before writing their final exams?

(b) How has been your performance as an individual pupil?

**MEASURES TO IMPROVE 2010 GRADE  
TWELVE ACADEMIC PASS RATE**

5.What can be done to improve the academic pass rate?

**IMPLEMENTING MEASURES IN ORDER  
TO IMPROVE GRADE TWELVE PASS  
RATE.**

6.Hqw do we implement the measure in order to improve the academic pass rate for grade twelve of 2010?

**THANK YOU FOR YOUR COOPERATION**

**SEMI-STRUCTURED FOCUS GROUP  
INTERVIEW FOR TEACHERS**

**SUBJECT: IMPROVING ACADEMIC PASS  
RATE OF GRADE 12 PUPILS**

**FROM 93.6% TO 96% AT SAINT  
THERESE GIRLS SECONDARY**

**SCHOOL-CHILUBULA**

Dear Respondents, You are purposely chosen to answer the questions. As a group of six respondents you are going to answer questions collectively in details. The questions involve the burning issues from the semi-structured interview and observations. Confidentiality will be observed.

1. What was the grade twelve academic pass rate for 2009?

2. Was the academic pass rate for grade twelve fair or poor?

3. After interviewing the pupils and the administrator the issues which were raised for us to pull up the low pass rate of 2009 which was 93.6% to 98% were as follows;

- (a) Are these issues true?
- (b) What is your advice?
- (c) What can we do to implement these issues?

**THANK YOU FOR YOUR  
POSITIVE PARTICIPATION**

**SUBJECT: IMPROVING ACADEMIC PASS  
RATE OF GRADE 12 PUPILS**

**FROM 93.6% TO 96% AT SAINT  
THERESE GIRLS SECONDARY**

**SCHOOL-CHILUBULA**

**OBSERVATION SCHEDULE**

Observing mathematics clinic lesson for mathematics subject 4 times per term.

Observing debate for English subject 6 times per term.

Observing extra lessons for science subjects 4 times per term.