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Causes of Poor Academic Performance in Mathematics at Ordinary Level: A Case of Mavuzani High School, Zimbabwe

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ABSTRACT: *The study was set up to determine the causesofpoor academic performance in Mathematics at ordinary level. To achieve this, a case study was adopted which targeted one high school in Masvingo Province of Zimbabwe. Participants were purposefully chosen and only those learners doing O'level Mathematics were selected from the ordinary level group of 250 students. Teachers who taught Mathematics at O'level were also targeted. The information was gathered through the use of questionnaires, document analysis, interviews and observation. The questionnaire helped the researchers to have a wider view on the research problem. They were also physically administered by the researchers and this facilitated the return rate of 100%. The results showed that teaching methods, pupils, teachers and parents' negative attitudes towards mathematics, lack of teaching experience by some teachers and instability of teachers and lack of adequate resources are some of the causes of poor academic performance in Mathematics at ordinary level. A number of recommendations have been made which include motivation of students and staff development workshops.*

KEY WORDS: *poor academic performance; ordinary level; mathematics*

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I. INTRODUCTION

Education is one of the tools for the integration of society and for the realisation of personal development, national consciousness, and promotion of unity, economic, political, scientific, cultural and technological development (Afe 2012). Umameh (2011) and Nyaumwe (2013) state that mathematics education is a bedrock and an indispensable tool for scientific and economic advancement of a person and a nation at large. It is a fundamental part of human thought and logic in his attempt to understand the worldview of the environment in which he lives(Lynn&Bracado, 2009). Thus Mathematics plays a crucial role in human life. This concurs with Skemp (2008) who posits that Mathematics provides an effective way of building mental discipline and encourages logical reasoning. Mathematics prepares one for the future world. Consequently, many nations take mathematics as a compulsory subject at O'level since it is a fundamental subject for human life.

In Zimbabwe it is a national policy that admission into many public tertiary institutions as well as selection for most jobs is based on a good pass in Mathematics at Ordinary level. This translates to mean that Mathematics is critical in the development and academic progression of many Zimbabweans.The researchers also noted that Mathematics aids in the study of other subjects in the school curriculum such as science, commerce, social studies, art and music.

However although Mathematics occupies a critical position in the school curriculum, the researchers has observed that most pupils find it difficult to pass the subject. Many reasons have been attributed to the causes of poor academic performance in Mathematics.Amongst the causes of poor academic performance in Mathematics which the researchers has noted are attitudes of the learners towards the subject, lack of teaching experiences, economic conditions, lack of appropriate teaching methods and low motivation of teachers and attitudes. The researchers noted that Mavuzani High School was not spared to this national predicament. Table 1.1 represents the pass rate at O'level for selected subjects where mathematics is included.

Table 1.1Percentage pass rate at O'levelin selected subjects at Mavuzani High School

SUBJECT YEAR → ↓	2010	2011	2012	2013
N0. of Candidates	203	211	234	234
History	(N = 179) 88%	(N=193)91.3%	(N = 205) 87.8%	(N = 200) 85.4%
Science	(N = 141) 69.7%	(N = 190) 90%	(N = 179) 76.7%	(N = 209) 89.5%
Religious Studies	(N = 154) 76.1%	(N = 176) 83.3%	(N = 192) 82.2%	(N = 202) 86.3%
Mathematics	(N = 103) 50,75%	(N = 123) 58,3%	(N = 123) 52,4%	(N = 136) 58,2%

The annual analysis of the percentage pass rate at O'level as shown in Table 1.1 show that learners at Mavuzani High School underperform in mathematics where the percentage pass rate range from 50,75% to 58,3% from 2010 to 2013 while in other subjects, the percentage pass rate range from 69,7% to 91,3% from year 2010 to year 2013. Hence, based on these observations shown in Table 1.1 above, the researcherswere interested in finding out why learnersat Mavuzani High School underperform in mathematics when they were doing very well in other subjects. History has it that for most people, Mathematics is a difficult subject therefore some studies done show that people's attitudes towards mathematics contribute a lot to poor academic performance in that subject area. However, some generally fear the subject and have developed what Hanfi (2008) called mathophobia which is fear of mathematics which leads to negative attitudes towards the subject. Studies reveal that more than 50% fail the subject at Ordinary Level.

II. STATEMENT OF THE PROBLEM

Poor academic performancein Mathematics has attracted a lot of attention among concerned stakeholders in Zimbabwe. The researchers noted that there are a lot of speculations on this matter and this has provoked an ongoing debate in many schools around Zimbabwe; amongst them, isMavuzani High.The researchers noted that the Responsible Authority, parents, educators and learners at Mavuzani High School areconcerned by the poor academic performance in Mathematics in the school. Despite various efforts which have been put in place by the Responsible Authority which include offering good staff accommodation, a token of appreciation for those teachers who will have reached a certain percentage in terms of pass rate as well as monetary incentives, the performance in mathematics at ordinary level remained a cause for concern. As of 2013 the pass rate of Mathematics stood as 58% which was far below the expected when compared to other subjects.Poor academic performance in Mathematics at Ordinary Level has become a trend at Mavuzani High School. Therefore, the researchers saw a need to investigate and find out the major causes of poor academic performance with a view of suggesting mitigation strategies to ease the situation.

III. OBJECTIVES OF THE STUDY

The objectives of this study were to:

1. Examine the causes of poor academic performance in Mathematics at ordinary level.
2. Find out the challenges faced by teachers in teachingMathematics at O'level.
3. Suggest possible mitigation strategies to address the situation.

IV. LITERATURE REVIEW

The review of literature on the causes of poor academic performance in mathematics the world over was done in line with the stated objectives and this assisted the researchers to gain an insight into the situation of mathematics and pupils' performance worldwide. Literature review helped in the identification of some gaps which this study sought to fill. However, before a review of literature was presented, a relevant theoretical frameworkwas unpacked and this guided the study.

4.1 **Theoretical framework**

Since human beings attribute their success or failure to something, the researchers selected the AttributionTheory of Weiner (1979) as a theoretical framework guiding this study. According to Weiner (1979) people attribute their success or failure in terms of causes. In order to understand causation of behaviour, they search for explanations or causes. They attempt to maintain a positive self-image when they do well by

attributing the success to their own effort or abilities but if they do poorly, they believe it is because of factors beyond their control. They seek information that helps them to make attributions about causes and effect particularly in situations where the outcome is unexpected or negative. If the causation of an unpleasant behaviour is successfully attributed to something else, the individual feels better. The attribution theory assumes that the reasons people give to explain their behaviour govern their behaviour and predictable ways from one situation to the other. If failure is attributed to lack of ability there will be a decrease in performance. Thus, the causes attributed to a particular behaviour will influence subsequent emotional and cognitive behaviour.

The Attribution theory is important in explaining future motivations since there might be affective reactions to success or failure if for example a learner fails and attributesittolack of preparation.In future, such a learner will work hard, but if attributed to task difficulty he or she is likely going to be demotivated. Explanations, justifications and excuses about oneself or others influence the motivation of an individual to perform a task. The followingaspects explain success and failure; ability, effort, task difficulty and luck.Human beings believe that certain dimensions influence the persons' interpretation of success or failure. These are internal/external, controllable/uncontrollable, and stable/unstable. Learned helplessness develop when a people believe that the events and outcomes in their lives are mostly uncontrollable. This will result in lack of motivation and reduction of self-esteem.

The researchers noted that theattribution theory is relevant in explaining this study in that learners who fail Mathematics might attribute their failure to stable factors like difficulty of the subject and as such will expect to fail the subject even if they are given a second chance since Mathematics is viewed as a subject for those with greater intellectual ability. The theory is also relevant in that it highlights that failure diminish self-esteem where learners attribute failure in maths to uncontrollable causes such as lack of ability. This will lead to lack of motivation to work hard and to seek help. The attribution theory is relevant to this study in that causes of poor academic performance in Mathematics are also attributed to other factors other than the learners themselves. The reaction of the teacher to the learner whose failure is perceived to be a result of lack of ability will impact on the child's future motivation. The teacher may sympathise with the learner and the learner may believe his/her failure is a result of uncontrollable causes and may not put effort. Thus,poor academic performance in Mathematics is attributed to many factors such as shortage of staff, learner attitudes to the subject, mathophobia, lack of teaching and learning resources and inexperienced teachers.

4.2A review of related literature

4.2.1 *Causes of poor academic performance in Mathematics.*

Studies have shown that many people's images of mathematics are negatively andis perceived as difficult in many cultures and largely masculine. Walkerdine (1998) states that some societal views about Mathematics such as mathematical problems have oneanswerand can be solved in a particular way and its solitary activity done by individuals in isolation requires good memory and is for clever ones. People view it as a difficult subject and as such their performance is affected. Pupils seem not to have encouragement from people outside the school system. According to Sparks and Sarah (2011) the fear of Mathematics (mathophobia) has led to various scholars to conclude that mathophobia is a major contributory factor to the problem of learning and teaching of Mathematics. Hence, it immensely contributes to poor academic performance in Mathematics by Ordinary Level pupils. Mathematics is viewed negatively. This concurs with many scholars who assert that a review of school based education research has shown that majority of secondary school pupils find Mathematics as the most difficult, abstract, deadly and boring subject. Larzim, Abu and Wan (2003) have also observed that students' interest in Mathematics declines as they move from the primary school to secondary school level because they have fear that Mathematics is a difficult subject. According to Armstrong (2009) mathophobiacan be caused by teachers' methodology, mathematical knowledge, assessment and the nature of the discipline of Mathematics. Many Americans believe that Mathematics is a difficult subject. The notion of Mathematics as a difficult subject is taken by some people as a challenge such that if they succeed in solving Mathematical problems they feel satisfied and motivated into higher level Mathematics. Conversely if they fail the sense of failure result in low self-esteem.

Teaching experience contribute to poor academic performance in Mathematics at Ordinary Level. Researchers observed that unqualified teachers do not have the experience and skills to properly instruct pupils in mathematical operations. In his study Armstrong (2009) noted that teachers who have specialised in the subject which they teach or in the education of that subject and had around 26 to 30 years of teaching experience, influence student performance positively. This concurs with a studyAdeyani (2008) which revealed that teachers' teaching experience was significant to student's learning outcomes as measured by their performance. Thus lack of relevant teaching experience may have a negative impact on the performance of pupils in Mathematics. Shumba (1988) noted that a significant number of teachers in Zimbabwe lack long teaching experience and they have weaker practical instructional skills.Therefore, according to him, the longer a

teacher takes in teaching 'O' Level classes the more equipped he or she becomes in preparing learners for public examinations.

Research has shown that poor teaching stand out as one of the reasons for poor academic performance in Mathematics. Stuart (2000) concurs with the above assertion and states that poor academic performance in Mathematics is traceable to poor or ineffective teaching. Studies done in America also made similar observations when they showed that poor Mathematics achievement is attributed to classroom factors such as poor teaching methods (Elliot et al 2013). Research shows that the commonly used teaching methods are question and answer, exposition, guided discovery and group work. A study done by Dhliwayo and Wadesango (2012) in Zimbabwe revealed that the lecture method is however occasionally used while hands on activities and field trips are not commonly used. This also confirmsJaji's(1991) observations when he stated that the commonly used methods are question and answer, work from the textbook and teacher demonstration. Shumba (1988) had also made similar observations when he indicated that there is a high positive relationship between the methods used and pupils' performance.

A study by Ale (2000) showed that lack of appropriate materials for use by mathematics teachers compounds the problem of poor academic performance in the subject.In his study Ale (2000) found out that 60% of the students interviewed indicated that they performed badly in Mathematics because there were no adequate text books in their schools. Similar observations were also made by Kalejaiye (2005) when he noted that teachers need to have resources and that a variety of textbooks should be consulted by the teacher and pupils as they give different points of view. Similarly, Ale (2002) showed that some pupils fail their exams due to inadequate text books in their schools. Lance (2002) also made similar observations when he pointed out the shortages of essential materials such as text books, has an adverse effect on Mathematics as a whole. Fagbamije (2004) in his study revealed that inadequate supply of text books in schools is having a toll on teaching and learning activities in many countries in the world. The World Bank data on student text book ratio showed that it is at 20:1.

Due to economic hardships experience from 2007 and 2008,Zimbabwe experienced the worst brain in its teaching fraternity. The hardest hit areas were mathematics and science where there was a mass exodus of teachers migrating to South Africa where there was an acute shortage of teachers in these areas. Consequently, unqualified teachers were employed to fill in the gaps. These however, lacked skills to properly instruct learners and as a result, it contributed to poor academic performance in Mathematics (Sibanda, 2009).According to Makopa (2011) also made similar observations when he noted that the economic sanctions in Zimbabwe also affected the performance of the education system especially that some qualified teachers started leaving the profession for neighbouring countries and abroad as their earnings were losing value due to the rising inflation. Because of this, the Zimbabwean education system lost some of its best teachers during that period. The absence of teachers and ineffective teaching during this era could be largely responsible for the pathetic performance in Maths and Science.

4.2.2 Challenges faced by teachers in teaching Mathematics.

According to Chacko, (1989) 80% of the teachers indicate Mathematics as one of the subjects they find difficult to teach. Thus,according to Saad (2004)Mathematics at secondary level is not taught well because some Mathematics teachers lack pedagogic content knowledge and materials. The Gallup Youth Survey (2004) reveals that Mathematics is the subject that teenagers find to be difficult and this explains the poor academic performance. Teachers also face the problem of thementality that Mathematics is not for everyone. Mathematics is thought to be of the selected few.

Mathematics teachers have highlighted that pupils often approach Mathematics as a difficult subject. Researchers observe that the best cure for Mathematics anxiety is success and this should start with the teacher. Teachers' attitude to the pupils is very crucial as it rectifies the difficulties they are having in the subject. Mathematics teachers indicated that they should celebrate all efforts great or small in order to boost pupils' achievements. It has been noted that pupils who experience continuous failure in Mathematics expect to fail every time. Their lack of confidence compels them to rely on assistance of others to complete tasks. Literature has it that mathophobia has led majority of pupils to believe that Mathematics is a difficult subject (Sparks & Sarah, 2011).

Most teachers indicated that pupils who are slow in their learning face a lot of challenges in the learning of Mathematics. They do not actively make connections on what they have learnt and what is being learnt. These learners when presented with a problem solving situation cannot employ strategies or prior knowledge to solve them. In Mathematics most concepts are hierarchical and as such pupils have to build on what they already know.

Teachers in Mathematics department have indicated that some pupils have memory problems and they also would like to attribute that result to negative attitude as well. Some demonstrate difficulty in addition, multiplication and division. In sums which require multiple steps, some pupils display ignorance which serves

to show that they have problems with memory. This again boils down to the fact that they have problems with their information storage because the information they got will never be stored in the Long Term Memory. Thus, the calibre of leaners is also a challenge(Sparks & Sarah, 2011).Some of the challenges teachers face include lack of mastery of Mathematical skills needed to find solution to particular problems. For most learners their skills take a long time to perfect. Another challenge is that of the method of teaching. Mathematics need to be taught in a way which is clear, informative and interesting enough to attract learners' attention (Sparks & Sarah, 2011).

4.2.3 Strategies for teaching Mathematics

Research has shown that teachers should help learners to develop positive attitude towards the Mathematics. This aids in the increase of interest in learning it (Obodo, 2012). The teacher should make the subject interesting and exciting enough through the methods that will be used.There are quite a number of strategies which can be used in the teaching of Mathematics. Student involvement is crucial in doing away with the problem of poor academic performance in Mathematics. Students need to spent a great deal of time as well as effort in the learning of Mathematics so as to be motivated to want to continue wanting to learn the subject. They should not be treated as passengers but as active participants.

According to Ajogbeje and Alonge (2012) teacher competency is also crucial. Teachers should demonstrate competency in the pedagogic content knowledge of all the chapters in the book. Also of importance is the constant and frequent feedback and remediation by the teachers. The provision of feedback and remediation on the learners necessarily improve performance in Mathematics. Remediation aids in correcting deficiencies in learners with the intention of making them be on the same level with other learners. Teachers who use interactive methods achieve active participation for their learners. Discovery methods, group work and project work have proved to be effective methods in teaching and learning of Mathematics.

V. METHODOLOGY AND SAMPLING PROCEDURE

The study is qualitative and uses case study since it focuses on one school in Masvingo district of Zimbabwe. Purposive sampling method was used when selecting Mathematics teachers. On the part of the learner participants,simple random sampling was used in each class in to select 3 pupil participants from each class which gave us a total of 15 learner participants.

VI. DATA COLLECTION METHODS

In this study, focus group interviews were used in order to establish the causes of poor academic performance in Mathematics. A focus group interview guide was used and this had open ended questionsincluded, participants were afforded the opportunityto respond in the manner they were comfortable with. This gave the participants the opportunity to interact with each other as they shared experiences. Interviews were also used to collect data. Interviews gave the researchersthe opportunity to probe for more information where they felt inadequate answers were given with regards to the causes of poor academic performance in Mathematics. The researchers also asked detailed questions and probed further to get deeper meanings into the experiences of the participants in the study. Questionnaires were also used as data gathering instruments. The researchers distributed them personally. Varied responses were obtained from the questionnaires. Document analysis was also done to augment data collected through other means. Qualitative data was then analysed using the Tesch's method where data was organised into themes. Quantitative data was analysed statistical using percentages.

VII. FINDINGS

The findings reveal that 100% of the teachers in the Mathematics department were university graduate teachers. There were 25% university graduate female teachers and 75% university graduate male teachers. The researchers observed that the Ordinary Level Mathematics teachers were holders of appropriate academicqualifications but some did not have the teaching qualification such as the Graduate Certificate in Education.

The teaching experience of teachers in the Mathematics department at Mavuzani High school to an extent reflected the economic hardshipsaffecting other schools country wide. In the Mathematic department, it has been found out that majority of experienced teachers left the country for greener pastures due to economic hardships and low salaries in Zimbabwe. The results of the study showed that professionally unqualified teachers are employed now and again to fill in the gap and unfortunately they lack proper skills and experience to properly instruct pupils. Thus, economic meltdown in Zimbabwe has a fair share in contributing to poor academic performance of learners in mathematics at Mavuzani High School since the study found out that there was a massive exodus of experienced teachers leaving Zimbabwe for greener pastures.

It also emerged from the study thata significant number of pupils have a phobia for Mathematics which leads to a negative attitude towards Mathematics by a considerable number of the learners which contributes to poor academic performance in the subject. The study revealed that there is a close relationship between attitudes and achievement in Mathematics. The results of the study showed that attitudes are a key factor to consider when one wants to get a deeper understanding of causes of poor academic performance in Mathematics. The study revealed that these attitudesare a product of many factors like ineffective teaching, lack of confidence, peer and siblings influence. The study showed that this negative attitude towards Maths is deeply rooted in the community and some teachers in the school share the same attitude.

The findings of the study also revealed thatpoor academic performance in Mathematics can also be traced to its foundation. Some Mathematics teachers alleged that the primary schools were not teaching Mathematics properly. The teacher participant revealed that some primary school teachers do not have Ordinary Level pass in Mathematics and they assumed that they lacked pedagogic content knowledge hence they could not teach the concept properly.

The study also cited the home background as another contributory factor. The teacher participants revealed that pupils who came from families where Mathematics has never been passed will also think that they will never pass Mathematics. The study revealed that these pupils have a mathophobia and as a result, will perform poorly in the subject. In addition to that,the findings also revealed that pupils exposed to many teachers in a short period of time. This meant that the teachers did not have enough time to know and deal with the individual problems in the subject. In addition to that class size has also been found out to be a cause of poor academic performance in Mathematics. The classes are so large to the extent that individual instruction is not possible. The teacher could not give individual attention to every student.

From the focus group discussion and observations the findings indicated that learners were mathophobic and hence they approached Mathematics as a difficult subject. The study showed that pupils who experience continuous failure in Mathematics expect to fail the subject during public examinations. It was also revealed that their lack of confidence compels them to rely on the assistance of others to complete tasks. Another finding of the study reveals thatMathematics teachers have indicated that the subject requires a great deal of attention particularly when multiple steps are involved to solve a problem. These pupils, it has been found out, miss important information during instruction. If they have missed this information they fail to implement problem solving skills in solving the mathematical problem.

The findings of the study also shows that most teachers have indicated that pupils who are slow in their learning, face a lot of challenges in the learning of Mathematics. They do not actively make connections on what they have learnt and what is being learnt. These learners when presented with a problem solving situation cannot employ prior knowledge to solve them. In in this study it was observed that in Mathematics most concepts are hierarchical and as such pupils have to build on what they already know. Similarly, transfer of learning was raised as an issue that is lacking among the learners. Most learners could not transfer certain learned concepts to apply them in a different set up.

Memory problems have also been found out to contribute to poor academic performance. Some learners demonstrated difficulty in addition, multiplication and division. In sums which require multiple steps some pupils displayed ignorance which showed that they have problems with memory.

The findings reveal that 100% of teachers use question and answer and lecture method in their teaching. Group work was not frequently used only 50% used it. The reason being that, since the teachers find the syllabus too long if they use group work they will not cover the syllabus. Such methods as project and discovery methods were never used at all. Demonstration was used by 75% of the teachers. It has been noted that most teachers tend to avoid methods that are too demanding in terms of planning and preparation and yet these methods make Mathematics an interesting subject. Playing games can also be a powerful teaching method to develop conceptual understanding. Some of the teachers have indicated that their methods do not vary because there is not enough time for group work. Group work has been discovered as more effective and efficient as compared to working as individuals.

With discovery method teachers have indicated that pupils will be actively involved. Learning will be child centred and hence learners will not be passengers in the learning enterprise. The study also revealed that the discovery method is not frequently used. Project and group work are never used in Mathematics lessons as indicated by pupils. The researchers noted that pupils are of the idea that if the use of technology is also put in place, it will help them. Pupils pointed out that the use of internet can be a valuable teaching resource.

The findings of the study also revealed that teaching aids are crucial in the teaching and learning of Mathematics. Some of the teaching aids act as advance organisers and pupils will link the aid and what they will be taught. Lack of appropriate and necessary teaching aids or materials for teachers, results in pupils performing badly in Mathematics as indicated by teachers in this study. Teaching aids in some instances will be concrete objects which, provides tangible ways to explore Mathematical ideas. The study showed that educational aids increases pupils' achievement. Teachers have indicated that they lack resources in teaching and learning of

Mathematics. They pointed out that learners do not have enough text books and yet text books define the sequence of material to be taught. As pupils learn they need to have a look at worked examples in the textbooks. The study showed that inadequate textbooks results in poor academic performance in Mathematics. This translates to mean that if textbooks are not adequate, the ratio of pupil to textbooks become high. Teachers have indicated that the ratio of pupils to text books is still high as these books were not enough. In addition pupils themselves share the same sentiments. One pupil participant (B3) says that he finds it very difficult to share the Mathematics text book especially considering the fact that he has been made to share with a day scholar. There are a lot of inconveniences who sometimes takes the text book home.

The findings also reveals that 100% of the Ordinary Level teachers in Mathematics give homework to pupils. Those who give homework on Friday indicate that usually over the weekend pupils will have enough time to get assistance from peers and even parents for day scholars. It has been indicated by some teacher participants that some pupils get to understand some concepts if they are explained to them by the peers rather than the teachers. The study revealed that homework reinforces what pupils have already learnt, prepares them for complex lessons and also extend what they have learnt.

Also, another finding of the study is that societal attitude towards the subject should change. Negative attitudes have been proven to result in poor academic performance. Pupils are likely to achieve better if their attitude is positive. They should know that they can pass the subject. Pupils should be self-motivated as expressed by the teachers so that they develop interest in the subject. Also teachers as they deliberate should constantly make students aware of the importance of the subject. The same should apply to the parents at home. This will demystify the belief that mathematics is difficulty and eradicate mathophobia among both learners and society.

The study also indicated that Mathematics teachers should respond to and address individual differences bygiving remedial lessons to slow learners and extension work to fast learners. The study showed that consultation with the parents should be done so that the parents are advised on areas their children needs help. If that is done, the teacher and the parent can plan together on how best they can help the pupils. The results of the study revealed that as teachers it is important to always teach about the importance of the subject. The school head could also assist by talking about the importance of mathematics during assemblies. The teachers themselves could assist in trying to change pupils' attitudes. It also emerged from the study that the classes were too large. The teacher participants suggested that the school should enrol a manageable number of pupils so that individualised instruction is could be achieved.

VIII. DISCUSSIONS

The results of the study showed that there are numerous causes of poor academic performance in Mathematics at Mavuzani High School. These range from those which are institutional and are teacher-learner centred to the general ones. The study showed that poor academic performance is also a product ofmathophobia. Mathophobic learners are generally poorly motivated to do the math and hence underperform. The study revealed that many learners believe that Mathematics is a subject for those who are very bright. This kind of thinking is deeply rootedin the society from which these learners come. Therefore mathophobia isa social construct and society should change its attitude to Maths if learners are to do better.

The findings of the study also revealed that lack of teaching experience causes poor academic performance in Mathematics at Ordinary Level. Most experienced teachers left the department in search of greener pastures in the neighbouring countries like South Africa, Botswana, Mozambique, Lesotho and Swaziland. This left the Mathematics Department manned by inexperienced teachers who were hired to fill in the gaps.This lack of teaching experience contributed to poor academic performance. Coupled to inexperience, the study revealed that some learners fail Mathematics because of poor teaching methods employed by the inexperienced mathematics teachers. Learners have indicated that some teachers do not explain well while others are too fast.Learners preferred the interactive methods used by experienced teachers who left them for greener pastures. This concurs with the findings of Stuart (2000) who states that poor academic performance is traceable to ineffective teaching methods. Some teachers it has been noted did not vary their teaching methods which made the learners loose interest in the Mathematics.

The results of the study also showed that there were a number of challenges teachers faced which contribute to poor academic performance in Mathematics. Some learners it has been noted had poor memory generally. They fail to recall what they would have learnt. They were not able to make connections on what they will be learning. They could not build on prior knowledge. Also poor mathematics foundation poses as a great challenge to the learners. The study also revealed that some learners were not taught well in Mathematics at primary level, this spilled over to the secondary level.

In this study the findings showed that lack of resources results in poor academic performance in Mathematics. Majority of learners share textbooks although 75% to 90% of classroom instruction is based on text books. Lack of textbooks render learners incapable of doing their homework which worsen the performance

in Mathematics. The study revealed that there is an acute shortage of text books at Mavuzani High school and this has a negative effect on the performance of learners in mathematics.

IX. CONCLUSIONS

From the research findings the following conclusions have been made:

1. The results of the study showed that most Ordinary Level teachers were relatively young in the department and hence had no experience.It was shown that only one teacher which is 25% had a teaching experience of more than 10 years. 50%, were below 10 years of teaching experience. To this effect it can be concluded that difficulties faced by pupils in Mathematics could be attributed to lack experience by the teachers who manned the department. 25% of the teachers indicated that they have less than one year of teaching experience. Thus, the difficulties faced by pupils in Mathematics could be attributed to lack of teaching experience.
2. The researchers also observed that 75% of the teachers in the department were males so the study revealed that more boys than girls were highly motivated to do maths due to their male role models who are teaching mathematics
3. Another finding was that most teachers had done Advanced Level and therefore, are competently qualified to teach at this level; hence the results of the study showed that their qualifications had nothing to do with poor academic performance at O'Level.
4. AtMavuzani High School, text books are not adequate and the poor results may be attributed to the lack of enough text books. Many pupils shared one copy of the text books.
5. Mathematics teachers occasionally make use of teaching aids. The research, earlier on had hypothesised that pupils understand better if teachers make use of a variety of teaching aids. The results of this study confirmed this hypothesis. The study showed that concrete materials are effective for instructional purposes in Mathematics.
6. All teachers i.e. 100% give homework but what varies is the frequency. The researchers observed that homework increases, consolidates and concretises taught material. The results of the study showed that less home work given to the learners contributed to poor academic performance in Mathematics at Mavuzani High School.

X. RECOMMENDATIONS

The following recommendations for Mavuzani High School and other schools in the same situation to improve performance in mathematics at Ordinary Level:

1. The researchers recommends that the school should employ highly experienced teachers if it needs to improve its results in Mathematics. Experienced teachers should induct the inexperienced teachers (novices) on how to employ effective teaching methods for selected topics in the Mathematic O'level syllabus.
2. In addition to that, it is also recommended that Mathematics teachers should use a variety of instructional materials and strategies for pupils to understand better.
3. The results of the study showed that Mathematics needs a lot of practice. Therefore, teachers should give adequate homework to the learners so as to keep them practising.
4. From the literature review done, the researchers recommends that teachers should fight mathophobia among learners so that may have a positive attitude towards Mathematics.
5. The study observed that the Mathematics syllabus is too loaded, thus, the researchers recommends that the Zimbabwe Schools Examinations Council should revisit the Mathematics syllabus to make it manageable.
6. The researchersalsoobserved that the Mathematics class at Mavuzani High School is overcrowded. Thus, it is recommended that the school should enrol a manageable number of learners so that individualised instruction becomes possible. Thus, the official teacher pupil ratio of 1:25 should be considered.
7. Staff development workshops should be organised by the school at regional level, district, cluster and school level so that teachers can share the current teaching strategies.
8. Society as a whole should be engaged to change their attitude towards Mathematics.
9. Enough textbooks and other teaching/learning materials should be availed for learners to utilise in their learning endeavour.

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