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**PARENTAL INVOLVEMENT AND GRADE 8 LEARNERS' ACADEMIC
ACHIEVEMENT IN MATHEMATICS: A STUDY OF SELECTED SCHOOLS IN
EAST LONDON, SOUTH AFRICA.**

By

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OF DOCTOR OF PHILOSOPHY IN EDUCATION**

FACULTY OF EDUCATION

SUPERVISOR: PROF. E. O. ADU

DECLARATION

I, Eesuola Omobola. Foluke, hereby declare that this thesis is my work and all the sources that I have used or quoted have been indicated and fully acknowledged by means of complete references.

No part of this work has been presented at any other institution for a similar or any other degree.



14/03/18

Eesuola, Omobola

Date

ABSTRACT

This investigation springs from the realization that academic achievement is influenced by different environmental factors. The influence of parental involvement on learners' academic achievement has been recognized globally by experts in the education industry. As integral as parental involvement is, education industry is yet to come to terms on the best type of parental involvement needed for the teaching and learning of Mathematics in high schools especially at the transition phase. The aim of this study was to establish the relationship between parental involvement and grade 8 learners' academic achievement in Mathematics. Quantitative research method was used for data collection. The data was collected with the use of parental involvement questionnaire for learners (PIQL) and learners Mathematics academic achievement scores. The research was conducted in six schools (public and private) within the East London Education District. The total sample size was 460 Grade 8 learners who were randomly selected across the board. The outcomes of the investigation revealed that parental involvement enhances the academic achievement of grade 8 learners irrespective of a definition of it or the measure of achievement. Furthermore, the results of this findings indicate that good parenting styles, parental support and parental educational background ($r = 0.54$; $P < 0.05$), ($r = 0.20$; $P < 0.05$), ($r = 0.68$; $P < 0.05$) respectively are prerequisite for learners' academic achievement in mathematics, showing that the variables are significantly related to learners academic achievement in mathematics; while parental involvement in the area of communication and family structure were very weak ($r = 0.05$; $P > 0.05$), ($R = 0.09$; $R^2 = .005$; $P < 0.05$). This study therefore, recommended that parental involvement should be beefed up especially in areas of communication and family structure, by both the parents and teachers in order to enhance learners' academic achievement in Mathematics.

Keywords: Academic achievement, Parental involvement, Mathematics, South Africa.

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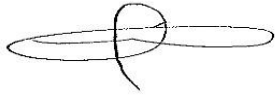
Once again, to God alone be all the glory for this great thing He has done for me. It is indeed marvellous in my sight. This can only be you dear God.

DEDICATION

This work is dedicated to the Almighty God, the covenant keeping God, the everlasting father who has been my help in ages; I return all the glory to Him because He deserves all.

SUPERVISOR'S STATEMENT

This thesis has been submitted under my supervision and with my approval.



14/03/18

Professor E.O. Adu (Supervisor)

Date

ACRONYMS

ANA:	Annual National Assessment
CREATE:	Consortium for Research on Education Access Transition Equity
DoE:	Department of Education
DoBE:	Department of Basic Education
NAPLAN:	National Program for Literacy and Numeracy
NAEP:	National Assessment of Educational Progress
NCES:	National Centre for Education Statistics
NCLB:	No Child is Left Behind
NRC:	National Research Council
OBE	Outcomes Based Education
PISA:	Programme for International Students' Assessment
QLTC:	Quality Learning and Teaching Campaign
TIMSS:	The Trends in Mathematics and Science Achievement
UNESCO:	United Nations Educational Scientific and Cultural Organisation
NCS:	National Curriculum Statements

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CHAPTER ONE

1.0 INTRODUCTION

On a global view education can be seen as the life line of every nation because of the pivotal role it plays on the nation as well as in individual character building. Every child needs multidimensional efforts in order to succeed especially at the high school level which is the bedrock and the foundation towards the attainment of higher education. High school is an investment as well as an instrument that can be used to achieve a more rapid economic, social, political, technological, scientific and cultural development in the country. The current requirements educational reform legislation, mainly the NCLB Act (2002), which globally cuts across countries, the need for school improvement as well as the implementation of legislative agendas tending toward improved student achievement and family involvement in schools is increasing. As a result of this, understanding what happens at the home setting where learners spend most of their time is needed to facilitate partnership between the home and school (Epstein, 2009).

1.1 Background to the Study

In contemporary schools, there are two key aspects that cannot be overemphasised. These aspects are learners' academic achievement and parental involvement in learners' Mathematics academic achievement. Mathematics is a fundamental subject in the school curriculum and Mathematics is one of the principal subjects taken by every learner until the higher levels of education (DoE, 2006). For success in tertiary education and beyond, a strong foundation in secondary school Mathematics is essential (Cappellari, Lucifora, & Pozzoli, 2008; Steinberg, Varua, & Yong, 2010). The compulsory nature of Mathematics in the school curriculum carries with it the understanding that the knowledge of the subject is needed by everyone in the society (Umameh, 2011). Notably, learners' solid background in Mathematics is well recognised as it serves as a gateway to future professions in a variety of fields (Tella, 2008; Pandor, 2006).

According to Awokoya and Fafunwa in Maliki, et al. (2009:131), modern humans live in a world where science and technology is fast becoming an integral part of the world culture and development agenda, it is evident that mathematics teaching and learning has developed into an unavoidable option. Hence, for any nation to be relevant, it must

not underestimate the relevance of mathematics in its educational system. Studies added that mathematics has, in most modern economies been widely recognised as the acquisition and attainment of scientific and technological knowledge expertise that is vital in achieving meaningful socio-economic development blueprint (Mbugua, Kibert, Muthaa & Nkonke 2012) of a transforming economy such as South Africa for example (Tshiredo, 2013). In our everyday live, Mathematics is vital since it deals with real life situation in our daily activities (Ojose, 2011). In obtaining better employment in the world, good understanding of Mathematics is an asset, if not essential for applicants. In spite of the importance of Mathematics highlighted above, learners continue to fail the subject and the performance of learners in mathematics in schools has not been satisfactory (Feza-Piyose, 2012).

However, across the globe, studies have shown low rate of learners' performance in Mathematics at school level has become an issue of great concern (Fonseca & Conboy, 2006). In the U.S for instance, the quality of K-12 education has always been a sensitive subject matter for a couple of years because of consistent evidence that American children perform poorly in Mathematics international tests¹ compared to their peers globally, especially those from East Asian countries. During the administration of president Obama, there was consistent emphasis on the importance of Math education and the administration did invest billions of dollars into Science, Technology, Engineering and Math (STEM³) education. The government effort notwithstanding, there was no improvement in the gaps of Mathematics scores between U.S and East Asian children in the international arena (Lee & Fish, 2010). Debates indicate that in Australia as well as in many OECD (Organisation for Economic Cooperation and Development) countries, substantial evidence shows that there is a decline in the number of learners selecting sciences and Mathematics in Years 11 and 12 (Department of Education, Science and Training, 2006; OECD Global Science Forum, 2006).

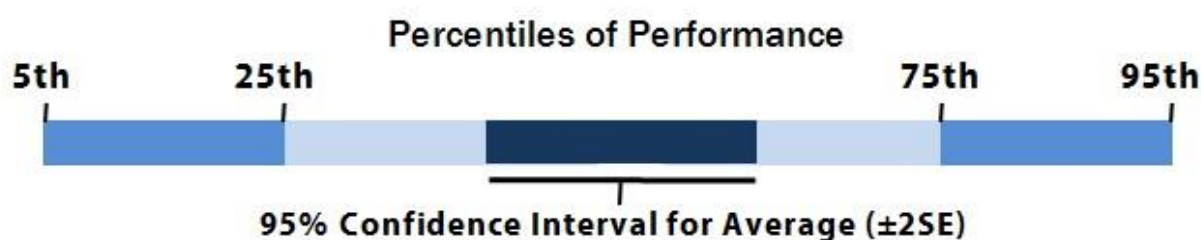
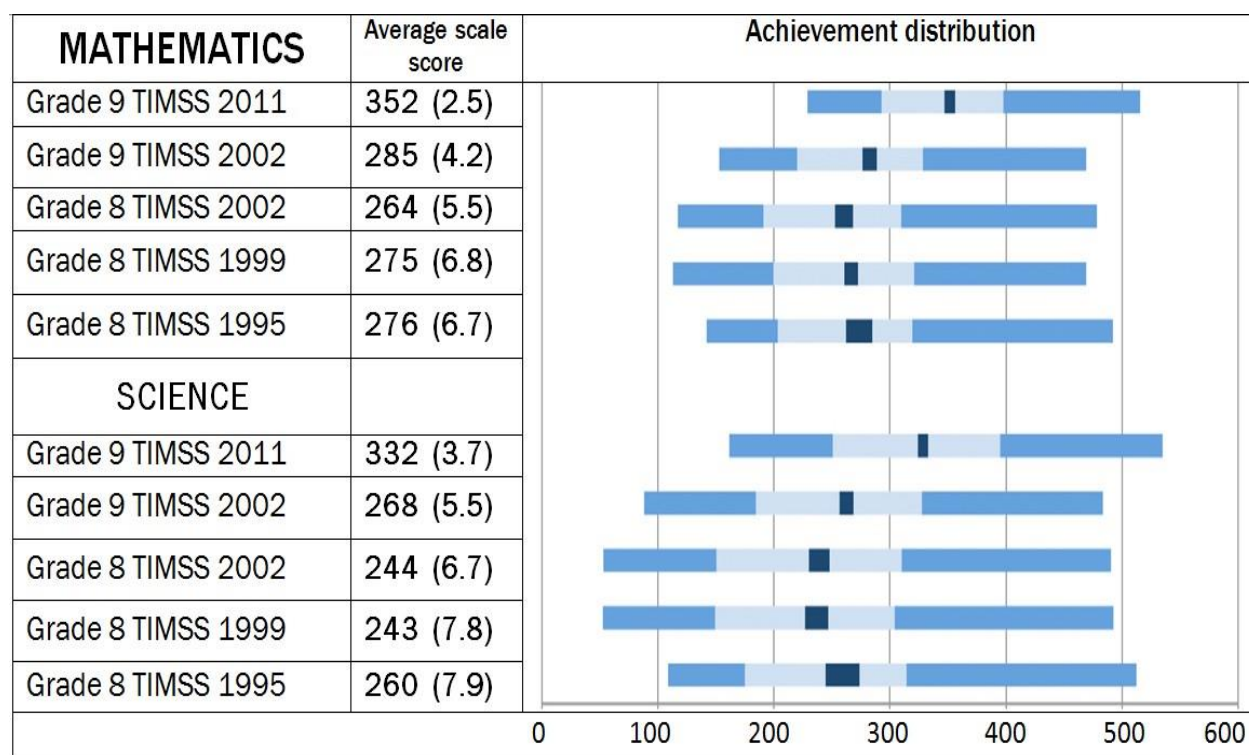
It has also been reported in India, that learners dropped out of school massively before they get to secondary level (Ramanujam and Subramaniam, 2012), and that the number of graduates selecting mathematics-related careers has been declining in spite of the importance of Mathematics in today's scientific world (Mishra, 2011). Also in Dar-El-salam, among challenging subjects in which learners of both Brunei primary and secondary school always perform poorly is Mathematics (Mohd, 2007). The implication of the foregoing is that when capable students avoid Mathematics, it reduces their career

options and thereby limits the nation's resource base on science and technology (Hembree, 1990). Specifically, literature shows that at this new age of high technological and economic world, Mathematics education and Mathematics performance are vital assets in global competition (Carnevale, 2005). Study says that concerns about Mathematical education "is much more than economic competitiveness or getting higher scores in global competitions. It is all about preparing our learners with the essential tools that could make them to be effective citizens and skilled members of the workforce in the 21st century" Garfunkel (2007:180).

In addition to that, results from Mathematics achievement assessments are used for many purposes, such as setting standards for learners' performance and making modifications to educational policies (Baker & LeTendre, 2005; TIMSS, 2007). In South Africa, studies show that in 2008 only 23.34% of learners who sat for the Mathematics senior certificate managed to achieve more than 50% (Department of Education, 2008). The situation seems not to be improving as in 2012 only 22.68% of the learners achieved more than 50% for Mathematics in the final grade 12 examinations. At the international scene among the participating countries of (TIMSS) between 2003 and 2011 TIMSS, Ghana and South Africa were the two countries with a significant improvement within that period by 51 and 65 scale score points respectively for Mathematics (Reddy et al.2014). Disappointedly, the five African countries that participated in TIMSS 2011 were amongst the very lowest. Thus, in South Africa the (TIMSS) found average Mathematics performance of learners in Grade Nine to be well below the international benchmark of 500 points (Mullis, Martin, Foy & Arora, 2012). Learners achieved an average score of 352 out of a possible 1,000 points fact, which placed the country in the bottom six of 63 participating countries.

The table below shows the students' achievement. The trends in Mathematics and Science in South Africa: 1995, 1999, 2002 and 2011:

TABLE 1:1 Mathematics and Science Achievement and South Africa



Source: Highlights from TIMSS 2011: The South African perspective

The 2011 study indicated that among all 21 middle-income countries that participated in the test, South African learners had the lowest performance. Prior to 2011 study, the test was basically for grade 8 learners. It was then decided that the tests were too complex for South African grade 8 learners and this explains the reason why in 2011 only grade 9 learners wrote the test. The result was just above half as good compared to the previous one.

Apart from the situation at the international scene, the home front is not better off as far as learners' academic achievement in Mathematics is concerned, especially in the Eastern Cape Province which is part of the concerns of this study.

TABLE 1:2 Mathematics Achievements in 2012

Province/Grade	L1	L2	L3	L4	L5	L6	L7
EC Grade 3	31.9	16.6	16.6	15.4	10.3	5.9	3.3
FS Grade 3	22.9	16.6	18.7	18.7	11.9	7.0	4.3
GP Grade 3	23.4	13.6	15.1	17.1	13.9	9.7	7.3
KZN Grade 3	29.6	16.3	16.5	15.7	10.7	6.7	4.5
LP Grade 3	43.5	17.7	15.1	11.5	6.7	3.5	2.0
MP Grade 3	40.6	18.3	16.2	12.7	7.1	3.4	1.7
NC Grade 3	37.9	15.8	15.1	13.4	9.1	5.4	3.4
NW Grade 3	44.0	17.9	14.8	11.9	6.4	3.2	1.9
WC Grade 3	22.5	14.1	15.4	16.4	13.4	9.7	8.5
National Grade 3	31.7	16.1	15.9	15.1	10.4	6.5	4.4

Source: Newsletter of South African Entrepreneur: Zapreneur 2012

TABLE1:3 National Results in the National Senior Certificate (NSC) Exams In Mathematics and Mathematical Literacy in 2012, 2013 2014 and 2015

Year	No.wrote Maths	Achieved at 30% & over	Maths: % achieved	No. wrote Maths Lit	Achieved at 30% & over	Maths Lit: % achieved
2012	225 874	121 970	53.1 %	291 341	254 611	84.9 %
2013	241 509	142 666	58.3 %	324 097	282 270	85.8 %
2014	225 458	120 523	53.5 %	312 054	254 611	84.1 %
2015	263 903	129 481	49.1%	388 845	277 594	71.4%

Source: DoE (2015: 54)

TABLE1:4 National Matric Results Department of Basic Education (2014)
Analysis of Results. South Africa

Province	2012 Pass rate ≥30%	2013 Pass rate ≥30%	2014 Pass rate ≥30%	2012 Pass rate ≥40%	2013 Pass rate ≥40%	2014 Pass rate ≥40%
E. Cape	31.8	43.4	42.0	21.9	25.1	25.1
F. State	64.6	71.1	65.8	43.3	44.5	44.5
Gauteng	71.0	73.6	69.3	52.4	50.7	50.7
K.Z.N	48.1	53.6	40.7	34.7	24.3	35.5
Limpopo	52.4	59.3	56.9	34.7	35.8	35.5
Mpumalanga	53.1	58.3	56.6	34.7	35.6	40.3
North West	59.6	67.4	61.7	37.7		42.4
Northern Cape	54.9	57.7	63.4	36.5	42.4	
Western Cape	75.3	73.3	73.9	56.9	56.7	

Source: Department of Basic Education (2014), Analysis of results South Africa

In view of the above Tables, 1.2 – 1.4, there is the general trend of more learners choosing to take the less demanding option of mathematical literacy instead of Mathematics (See Figure 1). This invariably means that university courses in the science, technology, medical or engineering fields are likely to be closed due to the large number of school- leavers who are not prepared for the global phenomena of science and technology.

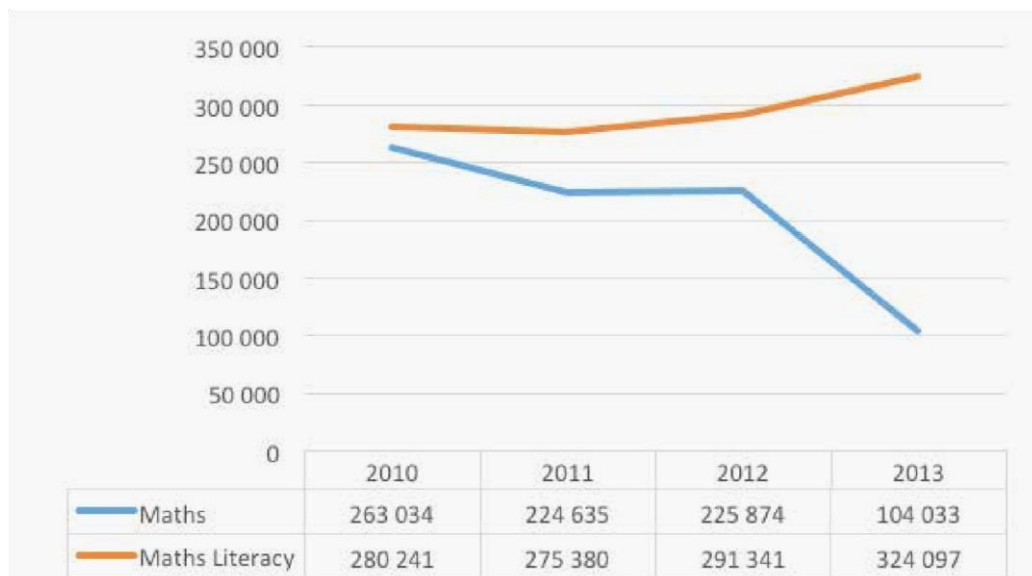


Figure 1.1: Trends in No. Of Candidates Writing Mathematics and Mathematics' Literacy

Source: Department of Basic Education, NSC Diagnostic reports (produced annually)

TABLE 1:5 Provincial Results in the National Senior Certificate (Nsc) Exams In Mathematics and Mathematical Literacy for 2015

Province	Mathematics	Mathematical Literacy
Eastern Cape	42.0	77.1
Free State	65.8	90.5
Gauteng	69.3	93.7
KwaZulu-Natal	40.7	75.9
Limpopo	56.9	83.2
Mpumalanga	56.6	80.4
North West	61.7	90.0
Northern Cape	63.4	89.9
Western Cape	73.9	87.7

Source: DoE (2015: 61)

Undoubtedly, research on academic achievement is very close to the heart of educational psychologists, in an attempt to examine what determines the outcomes of learners in terms of academic achievement especially in Mathematics which has remained consistently poor (Feza-Piyose, 2012). Therefore, the current situation becomes worrisome because there is a close link between knowledge production in terms of Mathematics achievement and national productivity within the global knowledge system. Thus, to ensure sustainable knowledge development there must be a sustained increase in Mathematics achievement. It then becomes imperative for scholars in the field of education to continuously conduct research to recognise and ascertain variables related to learners' Mathematics performance in order to maximize learners' learning and achievement.

Studies in Africa show that factors attributed to learners' poor performance in Mathematics includes: inadequate teaching and learning resources; negative teacher and learner attitude towards the subject; and ineffective teaching methods (Miheho, 2012).

Again, literature show that learning outcomes (academic achievement and academic performance) have been determined by such variables as; family, school, society, and motivation factors, while researchers have come with more questions than answers (Aremu, 2000). In the light of this, academic achievements have always been attributed to differences in curriculum, learners' attitudes, teacher practices and parents' value towards education in terms of their involvement (Eng et al, 2008).

In consonance with the on-going discussions, previous studies show that there are some specific factors that come to play in increasing learners' academic achievement in Mathematics such as parental aspirations, parent-child communication, home structure, and parents' involvement in school's activities (Wang, 2004). It is generally believed that parental involvement is rooted in the understanding that children's achievement in Mathematics is influenced by multiple contexts (e.g., home, school, and community) in a dynamic and bi-directional manner (Vukovic, Roberts & Wright, 2013). To a large extent, parental involvement affects learners' achievements and school grades. It influences children to achieve at school, which leads to the child's commitment to learning and further achievement, the school subject notwithstanding (Cheung & Pomerantz, 2012).

It should be noted therefore that scholarly and public interest on parental involvement in education of the learners is not a new concept. The pedigree can be traced from the prehistoric cultures to our modern society, the family has been the most important social setting for educating the child (Barbour, Barbour & Scully 2007). Likewise, Difnam (2007) and Sims (2008) have also confirmed parents' contribution to be a noteworthy factor in child's academic achievement. This indicates that parents make significant contributions to learners' learning from early childhood throughout secondary schools. This has made the concept an essential ingredient of educational practice and school improvement efforts at the present era of high stake accountability. Though there are positive links between parental involvement and academic outcomes, there is need for more statistical significant relationship between the two variables beginning from the value parents place on education and how often parents visit their children's school should be correlated with academic performance of learners (Graves & Wright, 2011; El Nokali, Bachman & Votruba-Drzal 2010). Some studies have been done to affirm the on-going debates in order to enhance learners' success in Mathematics among which is parental involvement (Jeynes, 2010). Furthermore, parental involvement is one factor that has been associated

consistently to a child's increased academic performance (Topor, 2011; Kgosidialwa, 2010).

Parental involvement is very vital in schooling, and that 'parents' are a child's first and most continuing educator, and their effect cannot be overemphasized (Department of Children, Schools & Families, 2008, p.67). For example, Mncube (2009) in a study on parental involvement in KwaZulu-Natal indicated that parental involvement differs depending on where the school in question is situated whether in the rural or an urban area. Similarly, in a study on educators' perceptions regarding parental involvement, McDermott & Rothenberg (2000) found that the majority of parents were not involved in the school activities of their children. From the debates, it shows that researchers reflect on parents' involvement in their children's education, they inevitably seem to be led to consider on how much parents should be involved in their children's education, though this may be an Achilles hill because it is usually a difficult task to ascertain. This may be partly due to the fact that different research articles present differing views and findings on the subject.

The outcome of Al-Shamarri and Yawkay (2008) study conducted in Kuwait indicates that, in 2008 in the Middle Eastern country, the parents of children with special needs were more involved in their children's education than parents of children without special needs. Between 64.7% and 95% of the respondents, who were teachers, confirmed parental involvement in their particular schools (ibid.). Whereas Berthelsen and Walker (2008), conducted another study in Australia in the same year on parental involvement in schools, and 60% of teachers stated that parents were very involved in their children's education, with 37% saying parents were fairly involved, while 3% indicated lack of parental involvement. We can therefore, deduced that, parents' involvement in their children's educational activities is likely to differ based on the setting of the school. This indicate, therefore, that, in the South African context, if there is a comparative of the 60% parental involvement cited in the Australian study would be considered good, whilst 65% (and 95% in schools with special needs, as is the case in Kuwait) would be regarded as good. Furthermore, debates have shown that parental involvement influences Learners' performance throughout the school years K-12, and that parents' day to day engagement with their children, encouraging skills in problem solving and independent thinking may further heighten achievement and motivate them toward academic success (Bronstein, Ginsburg, & Herrera, 2005).

According to Lemmer (2007), giving parents and community members an increased role in governing schools has been one of the strongest trends in many countries. In addition, many governments now have legislation to ensure that parents are involved in their children's education more than before (Friedman, 2011). In the United States, educational reforms include legislation which promotes parent and community involvement in school policies. This gave birth to the introduction of policies such as The Head Start Improvement Act (1992), Goals (2000) and the USA No Child Left Behind Act of (2001). Among policy makers, stakeholders in America, encouraging parental involvement and improving learners' achievement are priorities in their public education (Hornby, 2011; Crosnoe, 2009; Epstein, 2009).

Research indicates that generally African- American parents are mostly involved in their students' learning in the preschool and elementary years, but they become significantly less involved when their children enter middle school (Hill & Tyson, 2009). The reason behind this is that parents feel unable to or poorly qualified to help learners with academic work, especially in Mathematics. Some of African American parents have also expressed that their middle school learners become more independent and autonomous as they enter their adolescent years, and would rather not have their parents show up at school unannounced for some school events (Hill & Tyson, 2009). In 1994, parent involvement became an essential part of a schools' development plan in England (Reay, 2005). Many strategies were introduced such as: providing parents with information, their right as consumers, giving parents a voice, and encouraging parental partnerships with schools were set out for securing parent involvement in school activities. Reay (2005) affirms that the partnership between parents and teachers has become enshrined in British educational policies. In Indonesia, a study found a positive and significant relation between learners' attitude and Mathematics achievement, learner motivation and Mathematics achievement, and learners' perception concerning the role of parents and Mathematics achievement (Siskandar, 2013).

However, studies such as Erlendsdottir (2010); Berthelsen and Walker (2008) argue that parental involvement in school activities of learner has a positive effect on the academic achievement. Obviously, there is increasing evidence that high levels of family involvement in school are associated with high levels of learner's academic achievement (Jeynes, 2005a). Grant and Ray (2010) state that, when concerted efforts are made to implement meaningful parental involvement programs, schools function effectively. This further serves as an indication that the relevance of parental role in learner's achievement

cannot be over stressed. Furthermore, in Korea, parental involvement includes another aspect, which is private tutoring, which showed a significantly positive correlation with learners' Mathematics scores (Park, Byun, & Kim, 2011). Private tutoring is categorized under parent-school support. The study revealed how different types of parental involvement (private tutoring, home-based activities, school-related activities relate to learners' academic achievement in Mathematics.

In a related development, in the South African education system, changes have also been made by the democratic government since 1994. The process of transforming the education system, improving schools and restoring the teaching and learning culture in schools were characterized by new regulations, a range of policies, legislation and Acts. One of such Acts is the South African Schools Act (Act no. 84 of 1996). This Act has given a mandate to parents to be involved in their children's education. National Curriculum Statements (NCS) also legislated that parents and wider community have an important role to play in curriculum management of the school. Furthermore, the Department of Basic Education RSA, DoBE, (2009) came up with an initiative called the Quality Learning and Teaching Campaign (QLTC) so as to improve the quality of South African education. In the campaigns, the establishment of partnerships amongst all education stakeholders was emphasized by the campaign and parents were acknowledged to be important role players that must be involved to improve the quality of education.

Parents are also to see the quality of children's homework from school and to assist them with their homework activities by providing an enabling environment for learning at homes. Zedan (2011) view parents as important factors that have great influence in the lives of their children. The parents' positive involvement has the ability to shape, develop and to sustain learners who will be active, interested, diligent, creative and tolerant in the learning process and educational activities. Furthermore, parents are indispensable partners to their children as they journey together through life's challenges all through phases of development (Didier, 2014). Studies confirm the indicator that parents play a critical role in learners' learning at all educational level (Jeynes, 2011; Epstein, 2009; & Stewart, 2008). Thus, literature confirms that parents can make very important contributions to the development of their children learning (Epstein, 2009).

Furthermore, Bicer, Capraro and Cetin (2012) are of the same opinion that either negatively or positively, related indicators such as parents' socio-economic status, parents' success expectations from their children's Mathematics courses, parental beliefs about Mathematics, and parent-child, teacher and school communication are affecting children's Mathematical achievement. Social economic status, race, ethnicity, and educational backgrounds notwithstanding, the fact still remains that on parental involvement, there is a relationship between educational benefits and different types of parental involvement (Suizzo et al, 2012; Hartlep & Ellis, 2010; Shaffer, 2009; Epstein, 2008).

However, there might be different forms and levels of involvement both in and out of schools. These include activities that are provided and encouraged by the school and that empower parents in working on behalf of their children's learning and development. Epstein (1995) identified six categories of parental involvements such as basic parenting, learning at home, communicating, volunteering, decision making, and collaborating with the community. Similarly, specific parental involvement activities, like increasing positive communication between the home and school, providing home-based support for learning, and providing home-based celebrations for accomplishments, were recently reviewed and identified as essential to supporting positive Mathematics outcomes in learners (Ginsburg-Block et al., 2010). Despite the various studies that have been conducted and the overwhelming agreement by researchers and studies worldwide that home-school partnerships are necessary, studies show that there is low parent involvement in schools (Mmotlane, Winnaar, wa and Kivilu, 2009: 528; Lemmer & Van Wyk, 2004a). This occurs because of the underlying mechanisms such as the inclusion of parenting styles, communication, parental educational background, parental home support, and family structure. Hence, there is need for more research on parental involvement, at different levels of education, and for understanding of how the benefits of parental involvement can be harnessed to improve learners' achievements and general school experiences (Smith, Wohlstetter, Kuzin, & Pedro, 2011; Jeynes, 2011, 2007).

Findings from studies say that the incidences and types of parental involvement differ as learner transit through the upper elementary to secondary grades. It shows that for some reasons parents are no longer actively involved as before as their children grow older. In addition, age has also been associated with achievement. According to The Uganda National Examinations Board (2013) report, the mean scores in Mathematics of younger

students in senior two (Grade Eight) were higher than those of their older counterparts within the same class, while Ayotola and Adedeji (2009) reported that age had an insignificant negative correlation with MA of senior two students. However, Grade 8 is a transition phase, and transition from elementary school to secondary school may be an overwhelming and demanding experience for high school learners especially those at grade 8, when their physical, cognitive, psychological, and social characteristics are beginning to develop, learners experience both a contextual change and a personal change during this time. This period could be confusing to learners, their families, and other adults in their lives who seek to support their healthy development and learning (Marjoribanks, 2005; Baily, Silvern, Brabham, & Ross, 2004).

Furthermore, both in practice and in research, it is very obvious that there are differences in parental involvement between primary and high school grade levels. For example, there is decrease in the rate by which parents attend school programmes as learners get to high school grade levels. Studies have revealed that 89 percent of parents of kindergartners to fifth graders always attended parent teacher conferences. Statistic from this studies came down to 71 percent for parents of sixth to eighth graders, and further came down to 57 percent attendance rate for parents of ninth to twelfth grade learners (National Centre for Education Statistics 2013). Specifically, the impact of parental involvement on instructional improvement in learners' academic achievement in Mathematics remain largely unexplored which is the concern in this

Few studies have examined the concerns of learners as the consumers of education and this has created a major gap in focused literature on Mathematics instruction. This justifies the reason for the interest in grade 8 Mathematics. This study focuses on Mathematics as core subject in the school curriculum. Another reason that makes this study peculiar is that the whole spectrum of it applies to school-family partnerships, with focus on parental involvement and its influences on learners' academic achievement. This study thus extends the literature by examining potential pathways of the relationship between parental involvement and learners' academic achievement in Mathematics at grade 8 in East London education District. Lastly, learners' academic achievement in Mathematics has become a teething issue in South Africa that needs immediate attention of which this study is a contribution to what could be done to address the issue because of the issues involved.

1.2 Statement of the Problem

In the recent times, the need to develop a global competitive workforce has increased the interest in science, technology and Mathematics. Mathematical learning is empowering but can also be demanding for everyone (MacGillivray, 2008). For instance, in 2008 only 23.34 percent of the learners who sat for the Mathematics senior certificate in South Africa managed to score more than 50 percent (Department of Education, 2008). From the Annual National Assessment (ANA), released by the Department of Education, South Africa the picture of educational performance presented was not encouraging. Both Grades 11 and 12 learners struggle with Mathematics because they cannot do the basic Mathematics of Grades 8, 9 and 10 (Department of Basic Education, and 2014: 126). Majority of the learners scores between 0-29 percent which according to South Africa's rating is described as not achieved'. The report show that the largest number of South African learners who have been assessed score below 30 percent in Grades 3, 6 and 9. The achievement in Mathematics is however extremely worrying.

In 2011, South Africa was among 45 countries that participated at the grade 9 levels in Trend in International Mathematics and Science Study (TIMSS) Internationally. The result indicated that South Africa learners had the lowest performance among all 21 middle-income countries that participated. Again, the TIMSS found average Mathematics achievement of South African learners in Grade 9 to be well below the international benchmark of 500 points (Mullis, et al 2012). Out of the obtainable 1,000 points, learners scored an average mark of 352. Therefore, the country was positioned at 63 among the participating countries in terms of Mathematics performance. Furthermore, the situation has not improved because in 2012, only 22.68 percent of the learners scored more than 50 percent for Mathematics in the final grade 12 examinations (Department of Education, 2008).

From the aforementioned statistics, the downward trend in the performance among the learners in Mathematics in South Africa is evident. In addition, much of the previous research has focused on parents' involvement in elementary schools. It is generally believed that parental involvement declines as children transit to middle and high school, partly because parents believe they can no longer assist their child with more challenging high school subjects; and the lack of confidence in the effectiveness of their involvement in adolescence (Hill & Chao, 2009). Another vital issue is the peculiarity of Mathematics in the school curriculum which actually contributed to the uniqueness of this study by

being subject specific. Therefore, it against this backdrop this study investigates the relationship between parental involvement and grade 8 learners' academic achievement in Mathematics is necessary.

1.3 Research Questions

The main research Question: What is the relationship between parental involvement and Grade 8 learners' academic achievement in Mathematics?

Sub research Questions are as follows:

1. To what extent do parental variables (family structure, parenting styles, communication, home support and parental educational background) of Grade 8 learners in East London Education District affect the Mathematics academic achievement of their children?
2. What family structure is common among Grade 8 learners in East London Education District?
3. What types of home support is common among parents of Grade 8 learners in East London Education District?
4. What parenting style is common among parents of Grade 8 learners in East London Education District?
5. What are the educational backgrounds of parents of Grade 8 learners in East London Education District?
6. To what extent do parents of Grade 8 students in East London Education District communicate about Mathematics with their children?

1.4 Research Hypotheses

The following hypotheses are tested in this study:

H₀1: The independent variables (family structure, communication, parenting style, and parental educational background) will not have significant relative effect on grade 8 learners' academic achievement in Mathematics.

H₀2: There is no significant relationship between family structure and grade 8 learners' academic achievement in Mathematics.

H₀3: There is no significant relationship between parental home support and grade 8 learners' academic achievement in Mathematics.

H₀4: There is no significant relationship between parenting style and grade 8 learners' academic achievement in Mathematics.

H₀5: There is no significant relationship between educational background of the parents and grade 8 learners' academic achievement in Mathematics.

H₀6: There is no significant relationship between extent of communication with the school and grade 8 learners' academic achievement in Mathematics.

1.5 Objectives of the Study

The objectives of this study are as follow:

1. To investigate the relationship between parental involvement and grade 8 learners' academic achievement in Mathematics.
2. To investigate the relationship between family structure and grade 8 learners' academic achievement.
3. To investigate the relationship between parental home support and grade 8 learners' academic achievement in Mathematics.
4. To determine the relationship between parenting styles and grade 8 learners' academic achievement in Mathematics.
5. To investigate the relationship between parents' educational background and grade 8 learners' academic achievement in Mathematics.
6. To evaluate relationship between the extent of communication and Grade 8 learners' academic achievement in Mathematics.

1.6 Purpose of the Study

Generally, the main assumption in this study is that students have challenges in Mathematics due to many reasons one of which is the lack of parent involvement in their children education. Therefore, this study has uncovered an iceberg on an aspect of relationship between parental involvement and learners' academic achievement in Mathematics. Although other studies have acknowledged other issues on parental involvement and learners' academic achievement in Mathematics with interplay of other

intervening variable like learners' parenting styles, parent supports, and parental educational background, have not been properly documented, especially in the South African context.

Hence, the researcher used a pre-test intervention design in this study to investigate the relationship between parental involvement and grade 8 learners' academic achievement in Mathematics.

1.7 Significance of the Study

Considering the relevance of parental involvement to students' academic achievement, the decline of Mathematics performance nationwide, growth of economy, security measures developments, and the future rapid changes in the 21st century society; it becomes necessary for scholars in the field of education to continuously conduct research to recognise and ascertain variables related to learners' Mathematics performance in order to maximize learners' learning and achievement. This study therefore might be an important addition to the growing body of knowledge on parental involvement and learners' academic achievement. It might expand the scope of what is already known about parental involvement, contributing most importantly towards an in-depth understanding of the narration or belief about parental involvement and its impact on learners' academic achievement.

Particularly, this study will be useful to the four major stakeholders in education: the parents, learners, teachers and administrators. To parents, this study might highlight ways in which parents can better assist their child and the school, considering all the barriers, and build a healthy and productive relationship with the school and their child's teacher. The type of knowledge generated through this study is important for policy makers to assess the influence of the policy on parental involvement and also to improve on parental involvement policies. The understanding of how parental involvement might assist policy makers in reviewing and refocusing of the parental involvement policy and learners' academic achievement in Mathematics.

The research findings may be useful in developing seminars and training programs for teachers and parents to promote a nurturing environment that secures greater impacts on the academic achievement of learners especially in Mathematics.

Furthermore, the researchers' garnered information about different barriers to parental involvement from the data collected may serve as a catalyst for the development of school

policy to guide and foster parental involvement as well as for the development of workshops to aid parents in their expected roles.

In spite of the lack of generalizability of the findings due to the design of the study, the results can provide the Education Districts with important information on parental involvement and established area of parental interest. The findings might therefore, be used to bring about collaboration between parents, learners, and teachers. The

Results of the study might have the potential to affect the practice of educators and the actions of parents, making parents feel valued as partners in the education of the children leading to positive academic achievement. In addition, the information from parents might help teachers develop successful strategies for working with all learners.

Finally, the study might be useful to the future researchers on similar study areas as it provides literature to guide and inform their investigations.

1.8 Delimitation / Scope of the Study

This study covered six schools within East London Education District which comprises three private schools and three public schools. The schools were systematically and purposefully selected so that all categories would be included in the sample.

1.9 Definition of Terms

The following terms are operationally and conceptually defined for the purpose of clarity in this study.

Parent: According to the South African Schools Act (RSA I 996a: 4) a parent means:

- (a) The person who act as a parent or guardian of a learner;
- (b) The person who is legally entitled to be the custodian of a learner; or
- (c) The person who undertakes to fulfil the obligations of a person referred to in paragraphs (a) and (b) towards the learner's education at school.

The above definition is not limited to the biological parent; therefore, throughout this study, the use of the term, parent can be considered as referring to any adult of the above persons. Consequently, it is the responsibility of an educator to cooperate with whosoever has undertaken to play the role of a parent. In this study, the term "parent" is used broadly and refers to the person who has care, custody and control over and concern for the child.

Parental Involvement: It deals with parents' interactions with schools and learners in order to promote academic success. It includes, but not limited to, home-based involvement such as helping with homework, discussions about school activities and taking children to the library. In this study, parental involvement is defined as formal and informal input of parents in the academic affairs of learners' education in order to enhance the quality education.

Parental Education: Parents' experience in educational settings, experience with educational terminology, and level of formal schooling (Vellymalay, 2012).

Learner: In the word of Tsanwani (2009:13), the word "learner" can mean as follows: persons who learn, persons preparing for a particular subject, persons who through lengthy and systematic study attain a high degree of expertise, skill and efficiency, and persons who have the following attitudes or characteristics: curiosity, perseverance, initiative, originality, creativity and integrity. The above characteristics in this study are precisely those that are regarded as essential for achievement in mathematics.

Public Schools: The South Africa Act (SASA Schools), defined public schools as state controlled schools.

Educator/Teacher: According to your online dictionary, an educator is one who is trained in teaching; a specialist in the theory and practice of education (South African Schools Act, 84, 1996).

Family Structure: Family structure is the organisational structure of the home based on the parental input identified as traditional, single, step, or alternative family (Parke, 2003). This is the number of children, adults, in the home, sibling spacing, and birth order.

Single parent family: A household with only one parent which could be either the mother or the father raising the children in the home alone (Parke, 2003).

Step family: A household with two parents but with only one parent being biologically associated with the child/student with the other parent being "married" into the family unit following divorce, abandonment, or death of the other biological parent (Parke, 2003).

Traditional family: A household with two parents of which both are biologically associated with the child/student; acting in the traditional role of "mother" and father" (Parke, 2003). In this study, a traditional family might also consist of two adoptive parents who assume the same role in the child's life as both biological parents would.

Parenting: Parenting can be defined as the activity of raising a child rather than only having a biological relationship, which is usually done by the biological parents of the child in question (Draft Integrated Parenting Framework Department of Social Development, 2011). It is also a concerted effort, on the part of parents, to help their children in every way possible to achieve and develop (Redford, Johnson, & Honnold, 2009). However, for the purpose of this study parenting means the process of promoting and supporting overall (physical, emotional, social and intellectual) development of a child from infancy to adulthood.

Mathematics Achievement: It is the learners' ability to answer specific mathematical problems using a combination of knowledge based resources and learned processes. The learner proves an in-depth understanding of the problem then finds a strategy and uses this discovery to provide solution to the given problem. These skills are essential in solving problems that arise in Mathematics and those involving Mathematics in other subject areas (Mendoza, 1996). Mathematics achievement in this study was determined by examining students' test scores in Mathematics.

Communicating: Communicating is defined as any home-to-school or school-to home interactions about school programs and/or student progress (Epstein, 2008). In this study, communication is described as a process involving the exchange of information that can simultaneously influence and is influenced by the communication of others with the objective of strengthening parent-teacher relationships for optimal learner development.

Home support: Involving parents in learning activities at home, such as homework, goal setting, and other curricular activities and decisions. Encourage teachers to design homework that enables students to share and discuss interesting tasks with family members (Epstein, 2008). For the purpose of this study, it is parents' interactions with their children at home in their learning activities that reinforce what is being taught at school.

1.10 Layout of the Study

Chapter One

Chapter one presents the introduction, background of the study, statement of the research problem, research hypotheses, significance of the study and operational definition of terms.

Chapter Two

Chapter two is a review of the related literatures on parental involvement and the learners' academic achievement. It reviews the main theoretical discourse around the research problem; it introduces the theoretical framework guiding the study. The theoretical framework guiding the study was derived from Epstein's theories of influence and Bronfenbrenner's ecological systems theory. It explores global and South Africa perspectives on the topic under consideration. The chapter reviewed among other topics such as related theories of the study, historical view of parental involvement, concept of parental involvement. It presented South Africa policy framework regarding parental involvement, roles of parents, dimensions of parental involvement, effectiveness of PI; it examines hindrances to effective PI, suggested initiatives to increase PI, justification of the study, and four major parenting styles. It also reviews two types of families and implications of family structure on the learners' academic achievement. Lastly, the trend of South Africa learners' academic achievement in Mathematics is featured.

Chapter Three

Chapter three focuses on research method used in this study. It describes the orientation of this study, an explanation of the design of this study, instruments used and the entire process of data collection. It featured the research design, (qualitative), methods, sampling techniques, and analytic instrument that are important indices for determining the reliability and credibility of research findings. Of particular importance in this chapter is the detailed discussion on ethics in fieldwork.

Chapter Four

Chapter four encompasses the analysis and presentation of the data. The chapter encompasses the analysis and presentation of the data based on the objectives of the study. The table shows frequency distributions that are important to the discussion that follows. The chapter contains cross-tabulations of the principal independent and dependent variables.

Chapter Five

Chapter five consists of the general discussion of this study, personal views, and summary of the findings. It also presents the conclusion derived from the whole dissertation based on the findings. It presents the educational implications of the study and recommendations based on the findings are detailed in this chapter.

1.11 Chapter Summary

This section contains the general overview of the study, the significance of this study; the hypotheses and scope of this study. The nature of parental involvement and grade8 academic achievement in South Africa was presented.

CHAPTER TWO

THEORETICAL FRAMEWORK AND REVIEW OF RELATED LITERATURE

2.1 Introduction

Many scholars have reached a consensus that no study exists in a vacuum and thus the need to seek corroborative evidence from other literary sources. Therefore, this chapter attempted to review the existing studies related to the present study, as well as the theoretical framework in which the study is hinged on. Literature review is purposely done to establish what has been done in a chosen field of study. A review of literature is a very important aspect of any study because it is the main access point to the related body of knowledge. All research reports have to be positioned in the context of the over-all body of knowledge. This enables the researcher to understand and plan his or her approach better in order to add to the existing body of knowledge (Henning et al., 2004).

The review of relevant literature was done in stages under different, but related subtopics. The review focused on the following: Theories such as role model theory, Bronfenbrenner's bio-Ecological systems theory, implications and critics of these theories and others; trends of South Africa learners' academic achievement in Mathematics; conceptualization of PI; historical base of PI and Schools across the world; South Africa policy framework and PI in schools; PI and learners' academic achievement in Mathematics; schools- parents' relationship and PI; gender bias and PI; different dimensions of PI; effectiveness of PI in education; highlights of PI Benefits; promoting PI; parental involvement process; parenting styles; parenting styles and learners' academic achievement in Mathematics; family structure and learners' academic achievement in Mathematics; parental home support and learners' academic achievement in Mathematics; parental educational expectations; parent and child communication; parental educational background and learners' academic achievement in Mathematics; parent-school communication and learners' academic achievement in Mathematics; hindrances to effectiveness of PI; and finally the justification for the choice of Grade 8 learners in Mathematics.

2.2 Theoretical Framework

2.2.1 Related Models of Parental Involvement (PI)

2.2.2. Role Model Theory

Hunt (1963) was among the first theorists to emphasise the importance of parental involvement in the education of children. Hunt challenged the assumption of fixed intelligence and predetermined development; and he believed that IQ is not fixed brought about a change in the perception about parent's role from passive observation to facilitation. To a large extent, his theory concurs with the theory of Jean Piaget (1994) which states that development involves the interactions of the child with the environment. The emphasis of this model of knowledge is on the importance of experience to the developing child. This model was important and relevant to school's curriculum development. It means that to the developing child, the parent is very important.

Furthermore, this means that the experiences that a parent provides at home will boost the developing child's intelligence. According to Piaget's theories, intellectual development is a process that begins from infancy and lasts all throughout schooling. Hunt's theory states that intelligence is not fixed and is based on experiences that support the intervention; and parental involvement has a great impact on children's education. The role model theory emphasises the role functions of parents and educators has been key to the education of the learners. It also suggests that parental role, beliefs and behaviours are influenced by personal ideas and those of significant others in children's education. In essence, if the school adopts a program to involve parents in children's education, then parents will construct their roles accordingly. Parent role construction for involvement may be defined as parental beliefs about expected roles of a parent in relation to the child's education. The theory is applicable to students' educational achievement because it defines activities that parents construe as important, necessary and approved for their own involvement in the child's education.

2.2.3 The Hoover-Dempsey and Sandler model (1995 and 1997)

Hoover-Dempsey and Sandler model provides a theoretical framework from which we can view predictors of parental involvement. The three main levels of involvement in this framework are:

1. Parents' motivational beliefs with role construction and parental self-efficacy as motivational sub-factors for assisting children to succeed. Scholars have defined Parental role construction as parents' beliefs about

duties expected of them in relation to their children's education and the types of parental behaviour that are attached to the beliefs (Green et al 2007) Role construction is influenced by parents' beliefs about children's development, about effective child rearing practices, and about parents' support at home to assist children achievement in school, such as physically helping with schoolwork (Green, Walker, Hoover-Dempsey, & Sandler, 2007). Bandura, 1997 cited in Green Walker, Hoover-Dempsey and Sandler, (2007), defined Self-efficacy as a person's belief in his or her ability to act in ways that will yield desired results. This factor is relevant in shaping the goals an individual chooses to pursue and the persistency level in working towards those goals.

To relate the self-efficacy theory to parental involvement, Green et al (2007) explains that parents' decision to be involved is based in part on their thinking about the benefits or results of their involvement activities. Based on this first level's motivational factors, parents then determine the types of activities and choice of involvement, such as child-specific involvement (for example, physically assisting with schoolwork etc.) and school-general involvement (for example, attending school functions etc.). In other words, it explains PI in terms of home involvement and/or school involvement.

2. Parents' perceptions of invitations to involvement, with general school invitations, specific teacher invitations and specific child invitations as motivational sub-factors. This is about acceptable school practices qualities like an open and friendly school environment; adequate and timely dissemination of information about learner's progress to parents, school requirements, and school events; showing respect and sensitivity to parental questions and suggestions are all manifestation of invitations to family-school partnership. Positive school invitations and a welcoming, reliable school environment support parental participation. The school principals must take the lead by creating and maintaining a positive, friendly atmosphere at the schools (Green, Walker, Hoover-Dempsey, & Sandler, 2007:532).
3. Personal life context variables that influence parents' perceptions of the forms and timing of involvement that seem feasible, with skills and

knowledge, time and energy, and socio-economic status as motivational sub-factors. According to Hoover Dempsey et al (2005), parents who believe that they have the skills and the knowledge that will be helpful in any spheres of involvement activity are encouraged to engage in involvement activities. Also, parents' perceptions vis-à-vis involvements are influenced by their thoughts on other demands of family and work responsibilities. For example, parents with tight schedule jobs, or having more than one job, who are very busy with multiple child care or extended family responsibilities, tend to be less involved and also find it more difficult to participate in their children's education (Hoover-Dempsey et al., 2005).

In summary, Hoover-Dempsey et al (2005:105) state that,

'parents often prefer opportunities for involvement that is suitable within the demands they are familiar with and are knowledgeable, about the importance of involvement in their children's education, perceptions of their own ability for assisting the child to learn and also that life-context variables may influence their choices and activities related to their children's education as well as limit or enhance the type of involvement options that parents believe they may choose' pg. 105

This model generally offers a useful framework for understanding factors that motivate parents' involvement in their children's learning at school and home. The focus of this model is on the school's social context, especially parents' interpersonal relationships with children and educators, rather than parents' socio-economic status. Parents' interpersonal relationships with children and educators' influences parents' decisions about their involvement in their children's education.

Respectively, these models are unique and share some similarities. All the models emphasized the importance of building effective relationships between all stakeholders and the importance of parental and communal involvement to help all secondary school learners to succeed. Another area of similarity in all these models is the belief that it is the school's responsibility to reach out, initiate and sustain these relationships by creating a welcoming environment and culture that will promote and support involvement of families and communities at all levels. Moreover, these models highlight the importance of some issues sometimes overlooked, such as, understanding the parents, addressing

individual parents' needs, respecting cultural differences, sharing power and responsibilities.

Again, schools are encouraged by these models to provide and to be committed to a broad and goal-linked programme in order to involve parents and the community in the education of their children. While these are just models and it is true that schools are not the same and with different models, they still offer a framework which emphasizes the schools' primary responsibility to initiate school-family-community relationships so that learners may succeed in school.

2.2.4 The Coleman Theory of Parental Involvement

According to Martinez, Martinez and Peres (2004), social capital is defined as the quality and the level of relationships among people in a family or in a community. This capital is created by the relationship that exist between children and parents (and other family members) and the resources that are generated for meeting the child's welfare. According to Coleman (1987), it is the duty of the families to lay the foundation for their children's progress by instilling in them self-confidence, self-concept, and self-reliance and that if all these trainings from home are lacking by the time the child starts school, they become a shared responsibility of the family and the school. Parents, therefore provide the foundational blocks that make learning possible. Absence of positive influences from the home leads to problems.

In addition, Coleman (1987) stated that social capital is not limited to the family alone, and that it can be found from the religious, political, economic and social institutions in the community that give it stability and organisation. The community can increase its resources by contributing to the development of its members, thereby providing social capital to its members. Furthermore, a strong sense of community, common values, and readiness to cooperate are important in creating a conducive environment for children. The study categorized the contributions of both schools and the home that are responsible for the socialization of the child. The Schools' contributions towards the socialization of the child includes opportunities, demands and rewards that are provided by schools as the first category; while the second category is that of the parents which include the intimate and more persistent environment provided by the family

The immediate family's social environment is the basis of the child's attitudes, effort and formation of the self, that is the child's attitudes and expectations from education are formed at home, and its future effort towards academic attainment. The expectations

and beliefs of the parents, families and communities prompt the child's attitudes concerning schooling and learning. All these serve as the building blocks or social capital that makes learning realisable. Therefore, the common collaboration between the qualities the child brings from home and the qualities offered by the school will be responsible for its learning outcomes. In addition, Van Wyk (2008) stated that schools socialise the learner by providing the mutual environment for the children to learn in different ways. Based upon the socialisation that take place at home and on the other hand that family socialisation has upper edge on the child's attitude, learning ability and aptitude in school subjects is influenced than the school does. This implies that the link between both home and school is important for the child's academic achievement improvement (Coleman 1987).

Halpern (2005) in his view stated that, families provide the financial, human and social capital and compares financial capital to the family income, which is a powerful predictor of children's educational achievement. Another study added that, parental aspirations and the levels of parent child relationships, on the other hand, play a significant role in the child's education (Majoribanks & Kwok, 1998). It therefore means that, the level of family's poverty notwithstanding, families with high educational aspirations for their children, who interact regularly with them will 'produce' successful learners. Also, Coleman (1987) pointed out that the social capital attainable from the family and community was going down and this mostly have negative effect on the children with little human and social capital in their families. He therefore called for the use of religious instruction in public schools because the church, as a fundamental driving force in the community, and traditionally plays a major role in the lives of poor African-Americans in the United States of America. In his observation, the Catholic school pupils performed better compared to public schools, because of the good relationships that existed between the schools, the families and the communities they served. Halpern (2005) opined that human capital may also include the parents' level of education and that parents who are highly educated are able to provide home environments that are suitable and enhance learning. Nonetheless, the study says that financial and human capital alone is not enough to explain the educational achievement of children.

Coleman added that the social capital provided by a school is also important because the achievement of pupils is the outcome of the shared responsibility between the qualities that the learner receives from home and the qualities provided by the school. Furthermore, in Hargreaves's (2001) opinion, while some schools that are richer in

social capital are able to build their learners intellectual capital, those with poor social capital weaken learners' achievement, spreading negativities among their learners. Significantly, the social capital of schools serving poor families is important. According to Sun (1998), the poor families that live in the underprivileged areas face the disadvantages of their own poverty and that of their surroundings. According to Sun, this social effect is often reflected in poorer performance in children from such backgrounds in subjects such as Science, Mathematics and reading capabilities.

Moreover, as the social capital in the home and neighbourhood decline, achievement in school is also bound to decline because there are fewer opportunities, demands and rewards available for pupils. Therefore, to improve achievement in children, involving the family and community is very important. This would encourage the right attitudes, effort and conception of self that the children and youth need so as to succeed in school and as adults later in life. As a result of this, schools should organise parental workshops and newsletters to enable parents to share beneficial information that could enable them become effective mentors at home for their children. Halpern (2005) noted that family, school, and community social capital complements one another and that the more family, community, or school capital is available, the more beneficial it would be for the learners.

2.2.5 Theoretical Framework Guiding the Present Study

Ridley (2010) defined theory as a framework that provides an explanatory device in the form of categories and relationships always. Theory is used to explain and predict the output in a scientific enquiry as a result of the academic reasoning on a specific subject matter or phenomenon (Anonymous). This study is hinged on two theoretical frameworks; The Epstein's Sphere of Influence (Epstein, 2001) and the Ecological Systems of Bronfenbrenner Theories (Bronfenbrenner & Morris, 1998).

2.2.5.1 Bronfenbrenner's Bio-ecological Systems Theory

To a large extent, Epstein's theory is an advance work of Bronfenbrenner's theory of bio ecological systems and their consequence on child development. It further incorporates ecological, educational and sociological perspectives on social organisation and interactions (Conrad & Serlin, 2006). The "Bio ecological systems theory" or Ecological systems model of Bronfenbrenner is based on the development of a child that has to do with his/her relationship with close environment, the child's interaction with the community

and society at large (Bronfenbrenner, 1979). In the view of Paquette and Ryan (2001), the new name "bio ecological systems theory," perceives the child's own biology as the primary microenvironment that is the fuel for development.

Invariably, this theory is concerned with the quality and context of the child's environments. In the view of Bronfenbrenner (1979), a child's development and socialization are influenced by the different circles of the environment with which the child is interacting with always. The theory concludes that there is more to human development than examining a child's biology alone. The focus of the theory is on the developing person, the education designed environment and the people in this environment with all intertwining personal relationships, roles, actions and processes. Therefore, child's development is a composition of numerous interrelated systems that affect children's development, relate conversely to the behaviour of children within a multifaceted ecological context which is linked to their academic performance (Bronfenbrenner).

This model is about the influence of time, the circumstances or an event has varying degrees of impact on development and the impact decreases as time progresses. The designing of environmental events and natural changes beyond one's control, the same as socio-historical circumstances which include various aspects, like chronological age, duration and nature of periodicity, circumstances, such as a parent's state of health, divorce, or change of residence has a way of affecting young children greatly compared to how it affects adults. Therefore, the child's development is not shaped in isolation, but, in a variety of environments or contexts in which they interact always, and that development is not only shaped by the immediate environment, but also by the interaction with the larger environment. The theory views a toddler at the centre of a series of circles, and the parental relationship at the inner most level with high impact (Darling, 2007). This implies that the role of the parent as a developmental agent and/or catalyst is fundamental to the whole development of children. The general idea of this theory is that the environments in which children live by biological predispositions contribute a lot to inform the child.

There are number of external systems that influences child development and act concurrently to influence and guide development (Bronfenbrenner, 1979).

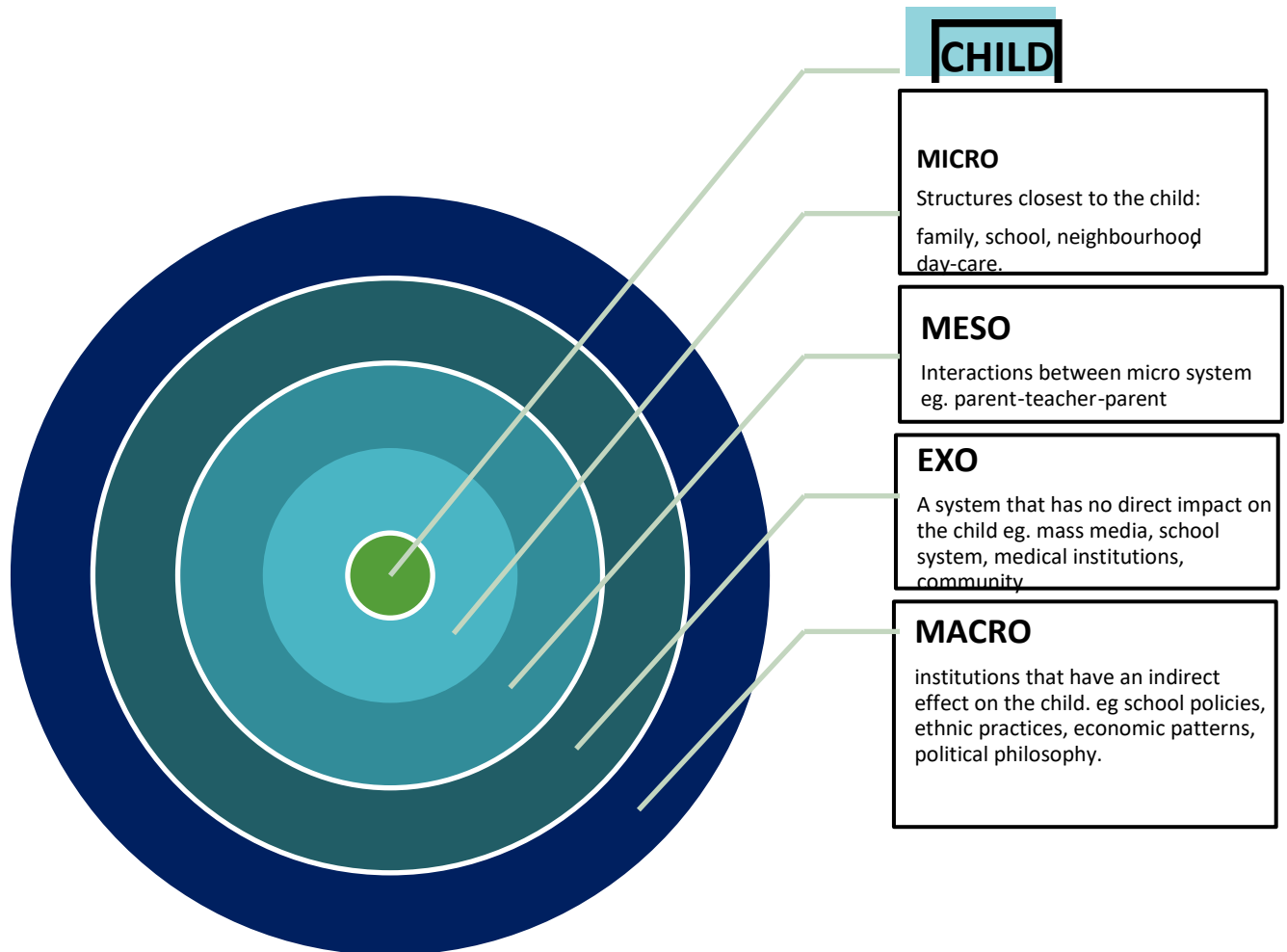


Figure 2:1 Adapted from Bronfenbrenner's bio-ecological model of child development

The microsystem

The microsystem is at the inner most level and the layer consists of the immediate family environment or setting in which the child lives. It is the closest to the child and this is the layer that the child has direct contact with, such as the immediate family, caregivers and their school or day care. These are basically interactions that a child is involved in, which exert an impact on the child and has the most immediate and earliest influence on the child. At the microsystem level, relationships can be, as Bronfenbrenner called it, *bi-directional*, since the developing child both affects and is affected by nested systems. For example, this inner most level variable of early child development may include, among other familial or childcare environments, nutrition, parenting style, parent's health, and demographic and socio-economic status (e.g., marital status, income).

The Mesosystem

The mesosystem is next to the microsystem and it focuses on the interconnections between two or more systems; or the interactions outside the family environment such as school and playmate influence among others. For example, what operates in the micro system, like the child's home, can affect what happens to the child in the school or at a playground, and vice versa. For example, parents' active role in a child's school, such as attending school events or watching their child's rugby games will help the child's overall growth. However, if there is disagreement between the child's two sets of parents, mother with step-father and father with step-mother, on the best way to raise the child and give the child opposing trainings or teachings when they see him, this will affect the child's growth in different areas. A mutual involvement between parents and teachers in the child's education, will result in mesosystem functioning.

The Exosystem

The exosystem is the third in the layer and it comprises micro and meso systems. The child does not have a direct encounter with the system, but it indirectly impacts the child's development, and includes parents' workplaces, extended family members, the neighbourhood, and so on. At this level, the policies and decisions that are made can indirectly impact the child. For example, a child's parent increase in salary at work may have a positive influence on the child, because her parents will be able to provide for her physical needs in better ways. And if on the contrary, a parents' loss of job could cause parents' inability to pay the child's school fees, and provide necessary things for the child. All of these may have negative influence on the child.

In the school context, various policies of school's special needs or child's racial difference and different ethnic background can all be considered as exosystem which influences on the child.

The Macrosystem

The macrosystem is the layer at the outermost and it happens to be the largest of all the layers. It is about the impact of the most remote set of people and things on a child.

Despite their remoteness their influence is very great over the child. The layer includes things such as the relative freedoms permitted by the national government, cultural values, economy disruption, wars, or political upheaval, all of which can solely or collectively shape development of a child. This is the societal blueprint that influences all lower layers of the ecosystem. For example, there tend to be more single parent families in societies where divorce is common. This undoubtedly will affect income, and hold back the opportunities that are available to the child (e.g., participation in sports).

Again, parents' intermittently change of environment (changing environment to start a new life in another city), may experience challenges about language, geography, employment, etc., resulting in an unstable environment where children's development can be affected. Basically, the role of the parent as a developmental agent and/or catalyst is vital to the whole development of children. The theory considers family influences as very powerful in producing change and provides a way to conceptualise interactions between parents, school and learners and to examine how they relate to academic achievement which is the basis of this study (Bronfenbrenner, 1986).

The Chronosystem

Chronosystem layer is about how changed events due to time influence the growth of the child; for example, the death of a parent or the aging of the child. Bronfenbrenner (2005) describes this layer as the evolution, development or stream of development of the external system in time. The chronosystem models can cover a short or long period of time, the model laid emphasis on how contextual influence and individuals can better be understood when dynamic relations between the context and individual is considered.

In this study the Bronfenbrenner bio-ecological human development model is adopted to explain that challenges to parental involvement in the academic achievement of learners could exist if there is an imbalance in any one of the systems. This is because a challenge in any one of the systems could influence all the other systems in the development of the learner. Furthermore, in this study, this model can be described as the home (microsystem); the school (mesosystem); the education department (exosystem); the community (macrosystem), and learner development (chronosystem). The child is at the centre of Bronfenbrenner's bio - ecological model, and not the environment. The application of this model in this study is about the vital and continuous role of parents in learners' academic achievement. The model lays the foundation for

understanding and promoting teamwork and partnership between the most important systems in the lives of children. It represents the family as a system, nested in a number of other societal systems, and helps to explain the effect the school-family relationship can have on children's learning and development.

This model helps us to understand the complexity of the family as a system and how the individual child functions within that family and the larger society. Going by the microsystem, parents should be included in all aspects of their children's education, including decision-making, governance and advocacy. While on the other hand, schools should work with parents to establish school level policies that enhance parental involvement. According to Balint (2005), holistic approach is needed in order to encourage home-school partnership, the type that sees all stakeholders assisting in the creation of an environment that is conducive to learning and teaching, and also geared to improving the quality of education.

2.2.5.2 The Implications of Bronfenbrenner's Ecological Theory on the school

Apparently, Bronfenbrenner's Ecological theory shows that a child grows up with components in his or her life interacting with each other. This means that a child is however not a passive recipient of things happening around his/her life. She/he interacts directly with the people and the effects go both ways. Researchers have added that, from the ecological theory, when parents contradict on how to raise the child and give the child contradictory lessons, this will obstruct the child's growth in different channels (Seigner, 2006). This model sees the unsteadiness and irregularity in the family life which has been the main destructive force in children's development. It also indicates that, when there is a breakdown in the microlayer, the child will not be prepared to explore other parts of his environment.

Children's inability to enjoy a fulfilled parent-child relationship causes them to look for other wrong ways for affirmations. The outcome of these deficiencies shows especially in adolescents as antisocial behaviour, lack of self-discipline and inability to provide self-direction. It is fundamental for the education system to make up for a lot of the breakdowns that children encounter in their homes. Therefore, there is need for schools and educators to provide stable and long term relationships to give room for parent's deficiencies. However, for the education community to the primary role will strengthen the denial of the real issue of the caregiver, as well as teachers' secondary role in children's education. This is because they cannot provide the complexity of interaction

that can be provided by parents. Other studies suggest the need for schools and teachers to work towards supporting the primary role and not taking it over (Leu, 2008). The emphasis of this theory is on fostering societal attitudes that value work done on behalf of children at all levels: - parents, teachers, extended families, mentors, work supervisors and legislators. The influences of the parent-family extend to all aspects of the child's development. Teachers need to deal with a variety of the family systems in understanding their students.

Furthermore, the theory centres on aspects of the environment that has to do with the process, person, context, time and what directly relate to the child. In the course of giving a description to Bronfenbrenner's ecological theory, Seigner (2006) used four steps that examine the context, interpersonal processes and personal characteristics of children and parents that prompt parental educational involvement and mediate the parental involvement, and child outcome link. Thus, the first description is the person's variable such as the child's personality characteristics, the parent's expectations for their child, and the context such as the atmosphere of the school and the process such as the parent-teacher communication. The second one is the home based involvement; such as parent child communication on school related issues and school based activities i.e. the parent's participation in school activities. The third step has to do with the child person variable such as educational self-efficacy, and academic inspirational outcome link. The last step, which is the fourth, refers to the child's educational outcomes such as academic achievement (Seigner, 2006). In addition, Bronfenbrenner (2005) defined five propositions that describe how the relationship developed at home and at school work together for positive development and the following proposition are:

Proposition 1

The essence of this proposition is that a child must be in a long term relationship with a stable adult that appreciate and sees the child as special and the child is aware of this situation which must be a regular occurrence. This connection must be one of unconditional love and support based on (Bronfenbrenner, 2005).

Proposition 2

Bronfenbrenner (2005) highlights that the strong relationship and support discussed will definitely assist the child to relate to the features in the mesosystems. However, the relationship must be navigated and sustained towards the developing of the child's

progress; this will then contribute to the building up of the child's confidence that will allow him/her to grow from outside activities.

Proposition 3

The input of other adults in terms of complex relationship and attachment will develop the skills the child needed to move and contribute in the child's primary relationship (Bronfenbrenner, 2005).

Proposition 4

The development and progress of a child moves on continuous two-way communication with the primary adult. Therefore, this interchange is vital between children and parents both at home and at the school (Bronfenbrenner, 2005).

Proposition 5

Time and resources are needful by parents and teachers which must be supported by public attitudes in order to build a strong relationship between child and adult

Basically, these five propositions suggest important implication for schools which should not be underestimated because the important role that parents play in supporting and encouraging learners to perform academically. The parent-teacher partnership is paramount to promoting the academic success of learners. Working independently or in isolation will yield adverse result and it then means that no parent or school can provide the support that can build the relationship it needs to help all children have a bright future except through collaboration (Bronfenbrenner, 2005).

2.2.5.3 Epstein's Theory of Overlapping Spheres of Influence

Epstein's theory is a further theoretical development on Ecological systems and social interaction theories of Bronfenbrenner> Epstein's theory of sphere of influence emphasizes the need for shared relationships of parents, educators and community as partners to identify common goals for learners' academic achievement and to value each other's contribution to learners' development (Conrad & Serlin, 2006). Epstein & Sheldon (2006:119) noted that the 'Theory of Overlapping Spheres of Influence' is all encompassing of perspectives and related theories of other scholars such as the ecological theory of Bronfenbrenner (1986, 1979) and sociological theories of Bandura (1986). Hence, the theory recognizes that school, family, and community partnerships cut across other disciplines by nature. Among others, the theory lays emphasis on the need

for cordial relationship between parents, educators and community partners to respect and understand each other's ideas, to have common goals for the learners and value one another's contributions to student development.

In Epstein's view, the most beneficial and the dynamics of the collaborative partnership of child development in relation to the education of children is that primary actors; parents and teachers, understand the roles that each play in the child's life. There are three major contexts in which children grow according to the theory and as recognized by the theory of overlapping of influence which are the family, the school, and the community and at the centre the model has learners as its focus (Epstein, 2001). Therefore, Epstein's (2001) frame work implies that the academic achievement of a child is a shared responsibility between home, school, and the community (sphere of influence). It is about the relationships and interactions among these sphere of influence and this is similar to partnerships and provides an opportunity for them to work together in order to promote growth and development of children, relating conversely to the behaviour of children, and as a result, leading to children's academic achievement.

It must then be emphasised that all stakeholders in the learners' education must rise to the challenge by performing their assigned role appropriately in order to achieve the desired goal. The educators must recognize their shared interests and responsibilities for children. They need to see learners as children, and this will in turn help them to see both the family and community as partners with the school in the children's education and development. They should then work together to create better programmes as well as opportunities for the children (Epstein, 2001; 1995). As stated above, in the contexts of this theory, the home, school and community are uniquely overlapping and influences the children jointly through the interactions of the parents, educators and community partners as well as of the children across the contexts. For example, teachers who recognise the relevance of parents and hold them in high esteem are more likely to design and conduct interactions and activities that accommodate the roles parents play in the education of their children. Likewise, parents' better understanding of teachers' work and the school's goals for their children will enable them to communicate with the school and take time to organize home activities that assist their children as learners (Epstein, 1987). The debates surrounding this discussion further state that the improvement of Joyce Epstein on the 'Theory of Overlapping Spheres of Influence' is paramount and suggest that partnership between parents, educators and others in the community to guide and

support the children's learning and development help children to learn better (Epstein et al, 2009; Epstein & Sanders, 2006; Epstein & Sheldon, 2006).

The 'theory of overlapping spheres of influence' help as a means to examine how future teachers and administrators are equipped to understand shared leadership in schools, including the educators' shared responsibilities with families and communities to get the most out of the students' learning (Epstein & Sanders, 2006; Epstein, 2001). For example, teachers who see themselves as being the only one responsible for the students' learning may teach differently from teachers who believe in the shared responsibility with the parents and others for the students' success. Moreover, administrators who believe that together with their teachers form a "professional community" may manage their schools differently from administrators who see schools as full "learning communities", including the educators, learners, parents and community partners (Epstein & Salinas, 2004). In school settings, the implementation of the 'Theory of Overlapping Spheres of Influence' may be activated by action teams for partnerships comprising the teachers, the school administrators, the parents and community partners who work together to design and implement involvement activities related to the school's improvement goals. Action teams should devise annual action plans to involve the families and the community in ways that boost the learners' achievement in mathematics, reading and language skills. In the same way, action plans should blend together with other school goals such as learner attendance, positive conduct and a friendly environment of partnership (Epstein & Sanders, 2006:87).

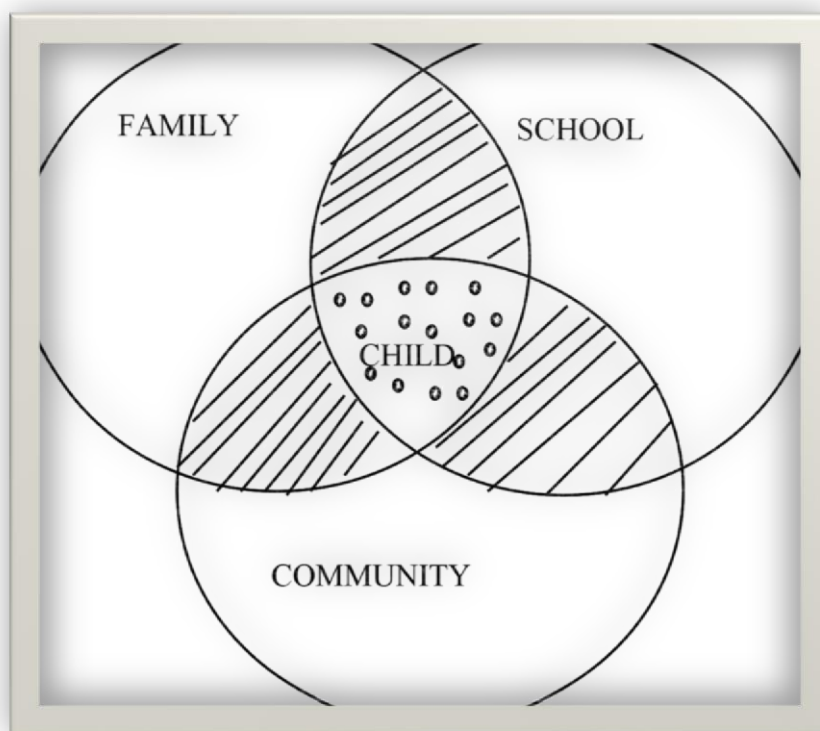


FIGURE2:2 Overlapping Spheres of Influence (Epstein et al., 2009).

The design indicates that the external model of the overlapping spheres of influence shows the important intersecting forces, such as the experiences or background of the family, school and community, philosophies, opportunities including the actions of the families, schools and communities. The three contexts can be brought together or pushed apart (Epstein et al., 2009; Epstein & Sanders, 2006; Epstein & Sheldon, 2006; Epstein, 2001). There are other forces such as learners' age and grade level, historical and policy contexts, as well as time that are also included (Epstein, 2000; Epstein & Sanders, 2000). For children's learning and development to be effective, there are practices to be jointly done according to the model and there are practices that are to be done separately too.

While the internal model of the overlapping spheres of influence identifies the institutional and individual lines of communication as well as the social interactions of the parents, teachers, learners and community members with the learners and with each other (Epstein & Sanders, 2006), Epstein & Sheldon (2006) viewed that social relationships may be enacted and studied both at an institutional level and at an individual level. Their study added that, the concepts of social capital, as advanced by Coleman (1988), are also applicable to the 'theory of overlapping spheres of influence'. For example, the social

ties and exchange of information established from the partners that accumulates as social capital can be used to improve the children's school and learning experiences. For instance, general invitation from the school to all the families to an event or sends the same communications to all the families or teacher's invitation to a parent to meet at a conference, use email to communicate, or talk on the phone. It then implies that the closer or farther these contexts are from the other depends on both external and internal actions (Epstein & Sheldon, 2006).

Furthermore, there are other benefits accrued to schools' frequent communications and interactions with the families and communities mentioned by Epstein, such as more children receiving common messages from various people about the importance of the school, importance of hard work, thinking creatively, helping one another and of staying in school. Even though, Bronfenbrenner's work on Ecological systems theory was not mentioned categorically; Epstein's theory of overlapping Spheres of Influence seems to build on this theory. Also within this model, connections between the schools or parents and community groups, agencies and service can be represented and studied.

According to the literature, Theory of overlapping spheres of influence also grounds studies of the internal structure of the model by recognizing that there are different ways to partnerships in the interactions between and among teachers, administrators, counsellors, parents, community partners, learners and others (Epstein & Sheldon, 2006). Epstein (1995) explained that in a partnership, teachers and administrators create more family-like schools which recognize each child's individuality, thereby helping each child to feel special and involved. In the atmosphere of a partnership, the parents create school-like families which recognize that each child is also a learner. In a situation like this, the families strengthen the importance of school, homework and activities that enhance the learner's skills and feelings of success. Epstein 's theory of family, community and school partnership emphasized the interdependent and the importance of all the spheres working together in the education of the child. Parental role construction reflects trust that parent have the larger share accountability for the child's educational outcomes.

Parental involvement is combination of parents 'role construction for involvement and parents' sense of efficacy for assisting the child in learning. Successful schools built with a sense of community within their walls, that is, schools that are collaborative, communicative, and comprehensive appear to have the greatest success in developing cordial relationship with the community outside their walls. Thus, family like schools

welcome all the families as opposed to only those that are reachable easily. On the other hand, communities, which include groups of parents working together, create school-like opportunities, events and programmes that reinforce, recognize and reward the learners for good progress, creativity, contributions and excellence. In addition, the communities also create family-like settings, services and events to empower families to better assist their children. Epstein (1995) explained that community-minded families and learners are known to help their neighbourhoods and other families. The study described community school as a place where programmes and services for the learners, parents and others are offered before, during and after the regular school hours. In this case, schools and communities talk about programmes and services that are family-friendly.

Consequently, all the above concepts are in line with the theory of overlapping spheres of influence. They serve as evidence of the potential for schools, families and communities to create caring educational environments. Definitely, when all these ideas of this model are put together and practiced, it will result in an experienced learning or caring communities for the children. This is because the key factors in both education and achievement at school are learners. In view of this, successful learners cannot just be produced by the partnerships of school, family and community, but except partnership activities that are designed to engage, guide, energize and motivate the learners to display their own successes. Admittedly, NCUSD (2013) asserts that if we can show more interest in learners, it will improve their studies, make them to work harder, be more competent and stay in school longer, motivated and guided to work hard.

Epstein (1995) buttresses the fact that the success of school, family and community partnerships is learners' dependence. Furthermore, she asserts that learners are often main source of information about the school to their parents. Teacher's responsibility therefore is to help the learners to understand and conduct traditional communications with their families, for example, by delivering memos or report cards. Additionally, the teachers need to help the learners to understand and conduct new communications such as interacting with family members about homework, or partaking in parent-teacher-student conferences. It is therefore appropriate to say that the level of the parental involvement in children's academic activities, determines the level of academic achievement of the children. The above assumption seems to be relatively consistent with the theoretical representation of Epstein's (2001) frame work of six types of parental involvement. This justifies why the model is used in this study. The theory is appropriate and deals directly with the issue of low parental involvement, and at the same time

providing parents with suitable working tools to choose from; and this will enable them to become more involved in their children's education in ways that are suitable for their respective schedules and lifestyles.

2.2.5.4 Epstein's Framework of Six Types of Involvement

One of the major tools that have been developed as a framework to define the concept of parental involvement and practices is Epstein's framework of six major types of parental involvement. The framework contains six important factors with regard to parental involvement which are parenting, communicating, volunteering, learning at home, decision-making and collaborating with the community. Though at the initial stage, parental involvement includes five dimensions that were originally coined by Epstein, Coates, Salinas, Sanders, & Simon (1997) which are: parenting, assisting with homework, communicating with the school, volunteering time at the school, and participating in school decision-making. The sixth dimension, namely collaborating with the community was then added (Epstein et al.2009), with definition for each of the six categories as follows:

Parenting: This is about the support for education children receive in their own homes. The school is a major factor in learners' education and can assist the parents by providing the families with a greater understanding of child development which will go a long way in parenting.

Communicating: This can be in form of written and oral conversation, correspondence which usually involve the address and the addressee; in this situation, between school and home. In order to make the two-way communication effective, it should focus on learners' progress and be initiated by parents as well as members of the school community as the case may be for the betterment off all that are involved in the act of communicating.

Volunteering: This happens in a situation where parents out of their tight schedule make out time for the advancement of the educational establishment. This act of volunteering usually benefits many students at once.

Learning at home: The parent or guardian usually performs the role of assisting the learners with learning at home either with homework or other curriculum activities including reading to children at the home.

Decision-making: This is usually a team work comprising parent leaders and representatives making up councils and committees for the school. Parents are given the opportunity to serve on various management and scale plans of action. Parents as councils and committee's members do make positive impact on the culture of the school which will be beneficial to the school community.

Collaborating: This is the idea of working jointly with the community by seeking resources and services from the larger community for the benefit of the learners (Epstein, 2009).

TABLE 2.1: Six Typologies of Parental Involvement

Type 1.	Parenting
Type 2	Communicating
Type 3	Volunteering
Type 4	Learning at home
Type 5	Decision making
Type 6	Collaborating with the community.

Adapted from Epstein (2002)

Epstein's framework is widely accepted and guides educators to develop comprehensive family school partnerships. It has its root in the theoretical model of overlapping spheres of influence, to explain the shared responsibilities of home, school, and community for children's learning and development. The first five suggestions relate to parent and family involvement while the sixth relates to the collaboration with the community as whole. There are many activities in each of the six types of involvement which promote and enhance partnership According to (Erlendsdottir, 2010; Epstein, 2006; Epstein & Sheldon, 2006; Epstein et al., 2002), the six major types or areas of partnership or caring are the result of many studies and years of work by educators as well as families in

elementary, middle schools. More importantly, it has been one of the major outcomes of many studies of the factors that are most effective on children's education. Epstein & Sheldon (2006) explained that the framework has different categories of practices that include the parents and the teachers, the learners and the community partners in different locations and for definite purposes, all resulting in student learning and achievement. As a matter of fact, it is important to note that the six types of partnerships are operationalized by hundreds of partnership practices. According to NCUSD, (2013); and Epstein, (2001), the framework enables researchers to locate their questions and results in ways that inform and improve practice.

Furthermore, in the context of this framework, the word partnership is purposely used to explain that schools, families and communities share the goals and responsibilities for the children and work together as a team. Children are placed at the centre of the framework in partnership activities while the teachers, parents and communities engage, guide, energize and influence the learners in order to produce their own success. Each of the areas or types advanced in the framework can lead to a different type of results for the learners, parents, teaching practices and the school environment. However, if it is effectively done, learners, the teachers as well as the parents will benefit from all the six areas. Indeed, a well-designed and implemented programme will include all the types of partnership to some degree and be connected to individual school goals.

Nonetheless, in involving different practices of partnership, each area poses specific challenges that must be met for the schools to reach out to and become partners with all the families, including those whose first language is not English, single parent families, low-income families and families with whom the schools traditionally have had limited interaction (Epstein & Sanders, 2006). In each area of the partnership there are aspects that contain the needed redefinitions of some basic principles of partnership for up-to-date understanding (Erlendsdottir, 2010; Epstein, et al., 2002; 2001). For schools to realise their goals, there is room for schools to select factors that are believed to be most suitable bearing in mind such challenges ought to be addressed so as to strengthen the family-school- community partnership. These goals include those to do with academic success as well as in developing an environment of alliance between the homes and schools (Erlendsdottir, 2010; Epstein, 2009).

Furthermore, a part from the fact that the main focus of the six areas stipulated in Epstein's framework regarding the family-school-community, the partnership is to enhance academic achievement and also beneficial to both the parents and the teachers

in different ways. This fact is further demonstrated by the reasons, as advanced by Epstein (2009; 2001), for developing and establishing partnerships between the school, the family and the community. These reasons include assisting the learners to succeed at school, improving the school climate and programmes, advancing the parents' skills and leadership, assisting the families to connect with others in the school and the community, and helping the teachers with their work.

As earlier stated, (Epstein, 2009) states that there are various outcomes for positive family-school-community partnerships among the concerned stakeholders. Parents as one of the stakeholders presumably will gain additional confidence in their role as parents, exhibit leadership in decision-making, have more effective and productive communication with their children about schoolwork, connect and talk more with other parents, especially at school. In the same manner, parents will develop a more positive attitude towards the school and its staff and gain more confidence in supporting their children in their homework, by means of involvement in their children's education. Furthermore, they are more likely to organise support for the school and its programmes in the community and become more active community members (Erlendsdottir, 2010).

In this framework, it is the responsibility of the educators to design comprehensive strategies for partnerships, to provide the individual learners with the resources and motivational framework to choose the right strategies (Erlendsdottir, 2010; Epstein, 2009). Hence, for the teachers the benefits may be presumed to include better communication with the parents and the community, and a deeper understanding of their learners as well as their situation (Epstein, 2009). Schools are not left out in these benefits. The schools will benefit from parental involvement through improved teacher-motivation, more support from the families and higher student academic achievement (Erlendsdottir, 2010). Indeed, Clarke (2007) reinforces this view by means of the assertion that schools function best when they cooperate with the community, remain active participants and have a sense of ownership of the school. Unfortunately, most teachers and management teams still do not have access to training courses on partnerships and how they work (Epstein & Sanders, 2006). Educators, both in service and pre-service, need competencies in working as partners with families in diverse communities. According to Epstein's framework on family-school-community partnerships, the six types of family and community partnerships in children's education include, promoting positive parenting, improving communication, increasing volunteerism, enhancing student learning, supporting decision-making and advocacy,

and collaborating with the community (NCUSD, 2013; CESDP, 2012; Epstein & Sheldon, 2006; Epstein et al., 2002; Epstein, 2001, Petronic, n.d.).

2.2.5.5 Criticism of Epstein's Theory

Although, Epstein's theory is well and widely applied in parental involvement studies, some scholar disagreed with some aspects of the theory. For instance, Maria Eulina de Carvalho, an educational researcher at the Federal University of Paraiba (UFPB), argues that, parental involvement in learners' homework assignments are different. De Carvalho (2001) holds a different view to researchers like Epstein who are supporters of parental involvement in learners' homework assignments. In her argument, De Carvalho (2001) state that the scholars who follow the Epstein model of parental involvement might be his followers because they may have seen some middle class parents that were involved in their children's homework assignments with positive learning outcomes. He added that homework might not help at – risk learners as it needs encouraging socio-economic conditions at home. Her major criticism is that homework depends on family conditions, and that it may increase the chances of failure it intends to reduce. She added that it could actually magnify the problem (De Carvalho, 2001). There are numerous studies in support of parental involvement in homework assignments, but very few studies that focus on the challenges of homework assignments, which are just emerging (De Carvalho, 2001).

Although, types of parental involvement in learners' homework assignments have worked for middle class families, poor and working class parents have to trust the schooling of their children to the school and the educators. De Carvalho (2001: 101) criticised that when teachers expect parental involvement in learner's homework assignments, possible challenges of working class parents in disadvantaged communities and schools are not considered. In her argument, De Carvalho (2001) listed a few of the challenges such as: single parents; working mothers; low educated, handicapped and chronically ill parents; those with a great number of children, in poverty; as well as those working irregular night and double shifts have time limitations. These are the majority of typical parents in many of the public schools. In as much as de Carvalho (2001) is not against parents' involvement in learners' homework assignments, her criticism centres on equal quality educational opportunities for the historically disadvantaged learners while compensating for challenges such as unequal social conditions and inequalities.

2.2.5.6 Application of the Theory on the present Study

Epstein (1995) discussed some social factors that might influence the academic achievement of learners from their parents' involvement. The framework has six types of parental involvement in the academic activities of learners that are very important to academic achievement of learners. In order for parents to fully participate in the educational process, some imposed regulations by professionals on schooling for years will have to be removed and parents will have to be seen as relevant as collaborating educational partners (Tett, 2001). Recently, studies have proven the effectiveness of these types of parental involvement (Suizzo et al, 2012; Hartlep & Ellis, 2010; Shaffer, 2009; Epstein, 2008). Parents are truly children's first teacher and they have been regarded as partners in the educational process of their children. Examples of this role are parents' assisting their children in homework, school activities support, and working in partnership with educators to impact the learning experience and parents as decision makers. Generally, it's all about involving them in the running of school through site-based decision making committees.

Communication between parents and teachers is one of the very important elements of effective parental involvement, and parents seem to be comfortable with informal relationship with their children's teachers. Parents' personal contacts such as phone and email with teachers are the most impactful factor in the better academic performance of their children. Epstein (1995) claimed that the spheres of influence of school, family, and community are important on children's development and that a child's educational development is enhanced when these three environment work collaboratively toward shared goals and also that through their interactions, parents, educators, and community partners establish social ties and exchange information that accumulates to improve children's school and learning experiences (Conrad & Serlin, 2006).

Among others, Epstein's theory of overlapping spheres of influence has been implemented to evaluate school and District programs of family and community involvement, providing information on the effectiveness of these collaborative programs on student academic achievement. It has also been used to evaluate and provide the theoretical underpinning of studies involving teacher development, school leadership and teacher understanding of shared responsibility in student learning and how this affects their pedagogical techniques (Conrad & Serlin, 2006). Schools are encouraged to create greater overlap among home, school, and community through the implementation of activities across six types of involvement which are: parenting, communication,

volunteering, learning at home, decision making, and collaboration with community which may assist to improve learner's achievement (Epstein 1995).

2.3 Trends of South Africa Learners' Academic Achievement in Mathematics

In South Africa, the significance of the early years for acquisition of mathematical skills is increasingly acknowledged. The systematic evaluation in Mathematics competency at primary school conducted by Department of Basic Education (DBE, 2012) is an indication of the recognition of the need for a solid foundation for learners to be successful in learning Mathematics at higher grades. Developing a positive attitude towards Mathematics among students and equipping them with a strong sense of numbers that will facilitates them to be successful in Mathematics in the higher grades is essential at this phase of education. Graduating children from the foundation phase with a weak sense of numbers will "almost certainly never become strong in Mathematics" (South Africa. DOE, 2009c).

The need for a solid background in Mathematics is well acknowledged as a gateway to future professions in different fields (Tella, 2008). Usage of Mathematics in real life application makes it very important in our daily lives (Ojose, 2011). Hence, for applicants interested in gaining better employment globally, a solid and very good understanding of Mathematics is an essential asset. Studies have indicated that, mathematical competence is an essential component in preparing numerate citizens for employment and it is needed to ensure the continued production of highly-skilled persons sought after by industry, science and technology (House, 2006; Steen, 2001). In the view of Steen (2001), Mathematics does not only empower people with the capacity to control their lives but also provides firm foundation for Science to generate effective theories. It also guarantees society a vigorous economy.

Today's world of technology advancement requires a solid mathematical background which leads to job opportunities in the world (Okigbo & Osuafor 2008). In many higher institutions, Mathematics is a fundamental requirement for Science, Computer Technology and Engineering courses. Based on the fact that, from homes to the workplace, technological tools have become a part of our day-to-day life activities then Mathematics becomes necessary. Based on the importance of Mathematics, already highlighted above, schools must respond with effective teaching and learning of Mathematics from grade one to university level (Department of Education, 2000).

However, notwithstanding the vital role of Mathematics highlighted above, learners' poor performance in Mathematics still persists (Feza-Piyose, 2012). Reports of international studies repeatedly reveals that South Africa has the worst educational results among all the middle income countries that participate in cross-national assessments of educational achievement, particularly in Mathematics, and even worse than low-income Africa countries. There are several studies pointing to high failure rate in Mathematics in South Africa in comparison to other countries (Mkgato & Mji, 2006).

In the outcome of the latest round of SACMEQ (2007), South African pupils ranked 10th of the 14 education systems for reading and 8th for Mathematics, behind much poorer countries such as Tanzania, Kenya and Swaziland. In addition, the study found that 27 per cent of South African Grade Six pupils were illiterate because of their inability to read a short and simple text and extract meaning, with the percentage varying significantly by province. It is unfortunate that even under a democratic government South Africa is still performing poorly on international assessments of mathematics. According to Pereira (2010), learner performance at both primary and secondary school levels does not appear to have improved significantly over the past 10 years. More than 50% of all learners who wrote mathematics in 2008 had failed the examinations in South African schools (Mukadam, 2009). Therefore; many learners are going for the easier option by enrolling for mathematical literacy instead of pure mathematics. Specifically, half (49 per cent) of all Grade Six pupils in Limpopo were illiterate, while only 5 per cent of pupils in the Western Cape were thus classified. Again, the report of the former Minister of Education in The Star November (2008), showed that only 35% of children could read, write, and count. Also the Department of Education (DoE) reported that in the 2010 National Senior Certificate examinations, 52.6% of learners obtained less than 30% in Mathematics and 69.1% of learners obtained less than 40% (DoE, 2010). The implication of this is that a very small percentage of grade 12 learners would be eligible to further their studies in the fields of Mathematics and science at tertiary level, leading to a reduction of science and Mathematics-oriented professionals. This indicates the worrisome state of Mathematics poor performance in South Africa. In addition, Pottinger (2008) says that out of 131 countries surveyed for Mathematics and Science quality by Global Competitiveness Survey of the World Economic Forum, South Africa was placed 128. In addition, The Star analysed a common paper in Mathematics, where only 17% fared to score above 50% out of approximately 5million South African children of the nine

provinces, despite the fact that education gets the biggest share of the country's budget and spending per learner, exceeding that of any other African country.

In TIMSS study, which tests Mathematics and Science, that there was no improvement in Grade Eight Mathematics or Science achievement between 1995 and 2002 in South Africa. The conclusion then was that the international Grade 8 tests were too difficult for South African Grade Eight pupils, and as a follow up in 2002, both grade 8 and grade 9 were made to write the grade8 test and in 2011 only Grade 9 learners wrote the Grade 8 test. The study then compared the performance of Grade 9 learners between 2002 and 2011 and the result showed that there was a noticeable improvement in Maths and Science performance amounting to approximately one and a half grade levels of learning. The result was an indication that there has been little improvement over the period. In as much as this is hopeful, this has not called for celebration considering how low the post-improvement level of performance really is.

For example, in 2011 a third of pupils (32%) performed worse than guessing on the multiple choice items (i.e. no better than random), 76% of Grade 9 pupils in 2011 still had not acquired a basic understanding about whole numbers, decimals, operations or basic graphs, and this is at the improved level of performance. One of the reasons for the improvement is the fact that South Africa started from an exceedingly low base in 2002. Studies have also discovered that out of forty-two countries that participated in TIMSS 2011 at the Grade 8 level, South Africa, Honduras and Botswana administered the assessments at the Grade 9 level. South Africa was placed second last in the TIMSS results (Reddy, et al, 2015). Putting this in perspective, South Africa's post-improvement level of performance is still the lowest among all the participating countries, with the average South African Grade Nine child performing between two and three grade levels lower than the average Grade Eight child from other middle-income countries. Again in the national literacy and numeracy tests 2014, The Department of Basic Education's (DBE) recorded only 15% of 12-year-olds (sixth graders) scored at or above the minimum proficiency on the language test and just 12% did Mathematics.

In South Africa, the current trend in Mathematics is largely an extension of an existing trend in the quality of Mathematics education generally. In 2012, the annual report of The World Economic Forum again ranked South Africa (SA) last amongst 62 countries on the quality of Mathematics and Science Education. Mathematics Reddy (2012: 5) says that the report of the Trends International Mathematics and Science Study (TIMSS) suggests that SA learners have difficulty grasping key mathematical concepts and 90% do not

possess basic mathematical knowledge. In order for the country to advance in Mathematics achievement, it is first and foremost essential to ensure that all learners receive quality Mathematics education. In an attempt to finding solution to improving Mathematics performance in South Africa, it is necessary that policy makers know what factors are currently influencing learner performance, as well as how strong those factors are.

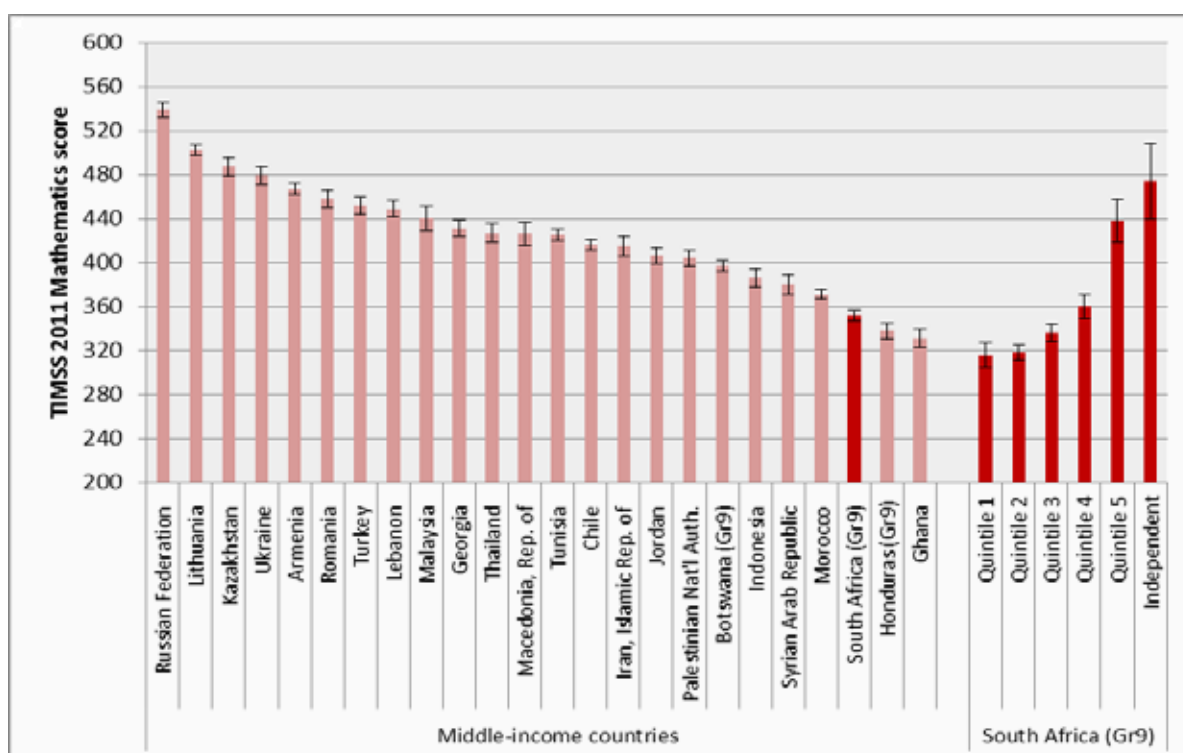


FIGURE 2.3: average grade 8 (South African grade 9) mathematics achievement in 2011 in Comparison to Other Middle-income Countries

Source: Spaull 2013, report for CDE, *South Africa's Education Crisis The quality of education in South Africa 1994-2011*

2.4 Conceptualization of Parental Involvement (PI)

The concept has been viewed from different points of view depending on why, and by whom the term PI is used, and could differ significantly in its meaning (Young, Austin & Grove, 2011). Parental involvement has different definitions from different studies because the definition is greatly dependent on the context within which it is used.

Therefore, defining the term in itself seems to be a challenge (Fan & Chen, 2001). The issue of parental involvement has been a long time controversial topic. As often as an attempt is made to apply or define it, its complexity increases. Various definitions and approaches provided by related and current literature will be discussed.

Majority of studies shows that parental involvement is vital, popular, well researched, as well as a complex phenomenon (Hornby & Lafaele, 2011). Mncube (2010) states that the term “parental involvement” refers to different forms of participation in school work, an understanding of the interaction between parenting skills and learner success in schooling, and a commitment to consistent communication with educators about learner progress. According to the Dpartment of Education in the US (2004),

‘parental involvement was defined as the participation of parents in regular, two-way, meaningful and effective communication involving students’ academic learning and other school activities including ensuring that parents play an integral role in assisting their children’s learning; enough encouragement for parent to be actively involved in the education of their children at school; and that parents are partners in their children education and are appropriately included, in decision making and on advisory committees to assist in the education of their children’ pg102

According to Holloway et al (2008:2) parental involvement is defined as the initiation of home-based behaviours such as monitoring homework and also as school-based activities like attendance of school events and communicating with teachers. They also attach importance to the general degree of cognitive stimulation, among other things, provided in the home setting. Maphanga (2006) states that, parental involvement consists of different types of participation in education. Parents’ support for their children’s schooling could be by attending school events, helping their children to improve their school work, become more involved by supporting in homework, displaying anticipated behaviour such as reading for pleasure, instructing their children at home actively, giving encouragement to their children, creating conducive space and appropriate study time table. In addition, outside the home, parents can serve as schools’ advocates or volunteer to support in school activities or work in the classroom or they can as well participate actively in the governance and decision making of the school which is necessary for planning, developing and providing an education for the community (Narain, 2005).

Internationally, literature indicates that parental involvement is viewed as participation in parent-teacher conferences or interactions, partaking in school activities or functions, engagement in activities at home, such as homework, engagement in learners extra-curricular activities, helping in the selection of learners course, getting well-informed about learners' academic progress, response to academic grades, communicating parental values, and the level of parental control and autonomy of support in the home environment (Gonzalez-De Hass, 2005). Furthermore, other studies such as Altschul (2012), Oyserman, Brickman, & Rhodes (2007) do not apply a multifaceted typology of parental involvement or either define it as a one-dimensional concept or differentiate it generally by the context in which it occurs, be it at home or in school (Giallo et al., 2010). According to Altschul (2012), home-based parental involvement includes helping learners with homework, talking with them about school, conveying high expectations, encouraging school success, and creating structure conducive to learning. The School-based parental involvement includes volunteering at school, taking part in school activities and school organisations and communicating with teachers and school staff (Oyserman et al., 2007).

Difficulties in operational definition of the term notwithstanding, there are six types of involvement is the consensus of many researchers (Epstein et al, 2008) According to this typology, parental involvement has six dimensions: Parenting, learning at home, communicating with the school, volunteering at school, participating in school decision making and collaborating with the community. However, drawing from different definitions from different scholars, and for the purpose of this study, parental involvement is defined as formal and informal participation of parents in the academic affairs of their children education in order to enhance quality education.

2.5 Historical Base of Parental Involvement (PI) and Schools across the world

In the seventeen century, according to Hiatt (1994), cited in Watson et al., (2012), education was primarily the responsibility of parents. Education was not of priority and was placed at the backseat, during the time of industrial revolution. Then, children were not going to school, both the parents and children were used for labour, and this led to unions' protest the act, which brought a new dawn to education and it was once prioritized again. However, parents were unable to be solely responsible for their children's

education, while they were still working, and there was the need to formalize the schools. Parents as a result of this became increasingly disconnected from their children's education and schooling. However, according to Watson et al. (2012), some parents disagreed and later kicked against the notion and fought for their right to play a more significant role in the schooling of their wards. It took the form of parent conferences, fundraising event mostly from mothers, in order to increase PI, and shortly the value of PI in schooling was acknowledged and recognised. In progress of time, the role of fathers and the value of their involvement later became evident too.

In a related study by Epstein and Sanders (2000), parents, schools and communities were treated as separate contexts in educational studies during the 1950's, and that, it was in the late 60's and 70's that researchers agreed on the importance of parental involvement in education. Very little attention was given to the value of partnerships between parents, schools and communities to improve the academic achievement of learners (Epstein & Sanders, 2000). As mentioned above, parental involvement in education gained prominence in the 60's with amongst others the "Title 1" programme (a programme that legislated the involvement of low-income parents to ^{prepare} their young children for successful entry to school), in pre-school and elementary grades of the United States of America (Epstein & Sanders, 2000). According to United States Department of Education, (2004), this "Title 1" programme is part of the United States of America's, "No Child Left behind Act" (NCLBA) of 2001, aimed to improve the academic achievement of the disadvantaged learners at primary schools. In a study by De Carvalho (2001), a popular Coleman Report of 1966 stressed the importance of family background characteristics for the low educational performance of the minority groups. On the basis of Equality of Educational Opportunity, Coleman report recognised that the sources of inequality of educational opportunities were in the home of the minority groups but the report also showed the ineffectiveness of the schools to free learner achievement from the impact of the home. Thereafter, educational research has invested in family child care and socialisation processes that support educational interventions of the family in order to prevent the school failure of disadvantaged groups (De Carvalho, 2001).

Furthermore, in 1970's, research and practice determined that parental involvement would improve schools and positively improve learners' educational outcomes (Epstein & Sanders, 2000). They added that, it was at this time that New York City community control movement got education authorities to understand that partnerships with the community were vital in decision making concerning the education of low-income learners, and that

the importance of parental involvement in learners' education and greater partnerships between family, school and community gained prominence in the 1980's. This is because educational authorities noticed the learners exiting schools with a lack of quality and skills and this lack of skills by the learners would eventually affect the United States of America's standing in the global economic community (Epstein & Sanders, 2000). In the recent times, the attention was now also on the escalating social and economic problems faced by families. There are lots of challenges ranging from young single parents; more children living in poverty; homeless and foster children and families; more family mobility during the academic year and single parents working outside of the home; all which contribute to the reasons for the importance of school improving for all children. Then, parental involvement in education and the stronger partnerships between schools and communities became an issue at the centre stage. Parental involvement is recognised as a vital link to improve educational outcomes of learners (Epstein & Sanders, 2000). Parents today, (both mothers and fathers) are considered as essential partners in their children's schooling (Dhingra, Manhas & Sethi, 2007), while the focus is set on effective home-school partnerships.

Across different countries, history showed that education was originally the sole responsibility of the family, but when the families completely left off this responsibility then schools overtook it, and then started giving back to the families through involvement being expected and respected once again (Watson et al., 2012). In the US, The No Child Left behind Act (NCLB) of 2001 of the United States Education Department (2004) regards parental involvement as the participation of parents in regular two-way meaningful communication involving student academic learning and other school activities. The goals of the policy or the NCLB Act of 2001 details is on how to increase parental involvement in education and how to support parents as partners in education. NCLB Act of 2001 also aims to close the achievement gap between minority students and their white peers. Furthermore, the Hispanic parents regard parental involvement as participation in informal home activities such as checking homework; reading to children; and listening to their children read. Hispanic parents also view their parental role as teaching morale, respect and behaviour. However, Hispanic parents believe they might be overstepping their boundaries if they interfere with their children's education in the class (Smith, Stern & Shatrova, 2008). In line with this study, this is an erroneous idea because parental involvement is crucial in a child's academic achievement. As a matter of fact, it cannot be separated from academic achievement. In a related study, the Scottish education

authorities acknowledge the vital role that parents and caregivers play in the learners' academic achievement. Parents are acknowledged as the first and ongoing educators of the child (Scottish school's Act 2006; Scottish Department of Education, 2006). The submission of this is that parental involvement cannot be overtly discussed.

In the Chinese culture, education is regarded as the most effective avenue to social and economic advancement and the improvement of the person. Nevertheless, Chinese school children face pressure on academic achievement (Tam & Chan, 2009). The homework hand out in schools consists of drilling and practice. Homework is the main activity outside of school for Chinese learners in Beijing and Taiwan. The Chinese – American parents spend more time on homework, structure the learners' time, and show more encouragement for Mathematics (Tam & Chan, 2009). Parents of Chinese learners in Hong Kong support the use of homework as a learning strategy and usually offer help with homework by providing assistance and monitoring the homework process. Thus, parental involvement in homework is often considered a preferred form of home school collaboration among Chinese parents. According to Tam and Chan (2009) parental involvement in education in Hong Kong often relates to the socio-economic background of the family. Middle-class parents in possession of cultural and social capital help learners with homework more readily than their working class counterparts. Again, the family socio-economic status among Hong Kong, Chinese families in Hong Kong is indicated by parents' highest education attainment which often determines the extent of parental involvement. Parents with primary school education or below were more likely to be uninvolved in learners' education in Hong Kong than those that have attained education at secondary level or above (Tam & Chan, 2009). Learners of younger ages rely more on their parents' emotional and practical support and parental involvement at this stage of the learners' education is more likely to be effective in developing the learners' motivation and efficacy beliefs (Tam & Chan, 2009).

However, as learners advance in their schooling, their reliance on their parents becomes less as the learning materials become more difficult for parents to handle. In the African perspective, a study in Ghana by Donkor (2010) in the Weija community of Ghana, the education of a few learners was low and the illiteracy levels were high. There was a lack of parental involvement as parents worked in the stone quarries and learners were left on their own. The education and literacy levels of the parents were very low. The Ghanaian government in a bid to address the situation introduced free compulsory basic education,

to boost education in the communities and the country (Donkor, 2010). Despite this laudable initiative by the Ghanaian government, parental involvement in the learners' education remained low. Schools then created enabling environments suitable for informal interaction between parents, educators and learners. There was a belief from the school that, this social capital introduced would influence academic success, educational achievement and life chances of the learners in Ghana (Donkor, 2010). Therefore, Ghanaian parents eventually viewed parental involvement in the following ways: If they (parents) helped their children to get a good education, their children would one day take good care of them (parents). The parents believed it was their moral obligation to be good parents because if they did not take good care of their children, they believed God would punish them (parents) according to (Donkor, 2010). This has contributed in no little measure in making parents to brace up to the challenge and get fully involved in Learners academic achievement.

In Kenya also, the educational policy supports parental involvement, even though its emphasis is largely on better quality teaching and greater administrative efficiency. In Kenyan public schools, community involvement in the form of financing and management of schools by participation in school management committees, such as parent teachers' associations (PTAs) in primary schools and boards of governors (BOGs) in secondary schools. According to Onsomu, *et al.* (2004), these bodies involving parents essentially fulfil the function of funding, management and operation of schools through the provision of teaching/learning materials. Kenyan government, by law, provides for the democratic management of primary schools by the stakeholders, involving the school managers, parents and the community in schools, creating an environment that is conducive to parental involvement in schools. To enable and enhance the management of schools, Kenyan Education Act established the School Management Committees (SMCs), consisting of fourteen members, eight being parents who represent each of the eight classes in primary school, two appointees from the District Education Board (DEB) or the Municipal Education Committee (MEC) and three members from the school sponsor, which is usually the religious organisation that established the school, purposely to oversee the management of primary schools. (Republic of Kenya, 2001). In addition, the Kenyan Education Act also provides for parental involvement in the School Instruction Materials Selection Committee (SIMSC), which consists of elected parent representatives who have to be literate.

The SIMSC is to oversee the selection, procurement and care of instructional materials (Republic of Kenya, 2003; Republic of Kenya, 1999). According to the Education Act, for the SIMSC to be effective, the principal calls members to discuss the procurement of required instructional materials after which parents are invited to a special meeting to be informed about the importance of caring for the textbooks and other instructional materials. Parents are asked to help by supervising book use at home and to help repair or replace badly damaged books (Republic of Kenya, 2003; Republic of Kenya, 1999). They also help in determining the school fees, as the Kenyan Education Act allows parents to have a voice in the management of schools. The principal determines school levies for infrastructural improvement and the School Management Committee (SMC) of each school and parents are then required to pay as decided. In addition, the Act also provides for communication of information to parents, the community and other stakeholders. Parents also have the right to choose for themselves what they would like for their children. From the aforementioned, it can be said that Kenyan parents are involved in schools. Nonetheless, the extent of involvement should be more comprehensive.

2.6 South African Policy Framework and Parental Involvement in Schools

In South Africa, history shows how PI in schooling was limited to parents' payment of school fees while; the involvement of parent in their children's education was limited most especially during the apartheid era. Parents in South Africa were less involved in the schooling activities of their children before the democratic dispensation (Mncube, 2005). The situation turns around after the democracy in 1994 when the South African Schools Act (Act 84 of 1996) introduced governing school bodies, consisting of mostly parents to ensure parents' active involvement and participation in their children's schools (Lemmer & van Wyk, 2004). The aim of South African Constitution, Act (No. 108 of 1996) is to promote ideals of democracy and human rights, and to speak to schools to work with all stakeholders, including parents. National Curriculum Statements (NCS), White Paper 2 (1996), and South African Schools Act (SASA) (1996), were some of the numerous policy documents that were introduced. South African Schools Act, Section 24 (1), specifies clearly, that parents must serve on the governing body of a school.

Furthermore, the Act states that the number of parent members must be more than the combined total of other members of a governing body who are eligible to vote (Clause 23(1):18). It also has the principal in his or her official capacity as a member of the

governing body. The Act mandates that parents should participate in schooling activities. This Act also serves as an attempt to legislate the concept of participatory democracy, giving parents a more profound role to play in their children education. The White Paper on Education and Training (Department of Education, 1995) states that it is the responsibility of parents to initiate education of their children. The school governing bodies were established to increase democracy and representation of school stakeholders. Ramisur (2007) contends that the South African Schools Act intends that all stakeholders, learners, parents and educators promote the acceptance and responsibility for the Organisation, funding and governance of public schools in partnership with the state. By law it means that parents must participate in school activities. It also implies a change in the traditional role of parents just being members in parent-teacher associations (Louw, 2004). Parents now have the capacity to determine what is in the best educational interest of the child. The schools are guided by the South African Constitution to do exactly what policies state.

The Department of Basic Education recently launched the Quality Learning and Teaching Campaign (QLTC) which is aimed at encouraging parents, communities, business and other stakeholders to support education. To show their commitment, parents have to sign a letter of commitment which lists activities they will perform to be involved in their children's learning. Parents need to be part of the formal education set up in order for them to understand the social, moral, economic and ethical issues of the South Africans society (Ndlovu, 2011). Likewise, learners need to be aware of the social, moral, economic and ethical issues as it affects South Africans. The partnership is in line with the mission of parents to educate their children in terms of the education demands on parental involvement in schools. The South African Constitution specifies that people need to be treated equally and that is why schools are obligated to treat parents as equals (Ndlovu, 2011).

The shift in attitude concerning parent involvement is very relevant in the South African educational context. More and more parents are being recognized by the government as relevant to effective schools and to the transformation process of education. Emphasis and recognition of increased parent and community involvement is evident in legislation such as: The White Paper on Education and Training (RSA 1995:21) and The South African Schools Act [SASA] (RSA 1996a ,50). According to van Wyk (2001) The South African Schools Act (RSA 1996,4 henceforth referred to as (SASA) definition of the term

'parent' is not limited only to a biological parent but allows for broader definition of 'parent' that encourages schools to recognise different types of families and home structures and therefore develop an adaptable kind of practices of family-school partnerships. The SASA regards parental involvement in schools as the foundation to school reform (Mathonsi, 2001).

A governing body is formed for every public and independent school having parents in the majority. Parents, therefore, have greater role to play and more power in the governance of the school. Lemmer & van Wyk (2004a) in their study encourage the need for a comprehensive conceptualization of parent involvement which includes, but go beyond parents participating in school governance. Heystek & Paquette (1999:195) affirm that:

"Parental participation is not only in governance, but also at other levels in the school. Parents can be involved both at the lowest level of management and at the decision-making level. For example, parents can assist their children with their homework and motivate them to be positive towards school and their education. p195

Mmotlane, Winnaar and Kivilu (2009) state that the South African approach to involvement is in agreement with the terms of the SASA whose view is more or less the same with school governance and representation. This involvement largely is limited to the activities of the governing bodies, and other types of involvement are not considered. Educators rely on the parents to have children in school. On the other hand, the parents rely on the educator for pedagogy and guidance. In addition, Ndlovu (2011) suggests that principals of schools have to involve parents in their programmes in order to achieve better education.

The South African Government through South African Schools Act, National Curriculum Statement (NCS) and other policy initiatives, has invited parents to be meaningful partners with schools in collaboratively providing quality education. The Department of Education (2002) clearly spells out the conditions which promote schools and parents' partnership. For transformation to take place in schools, the South African government states that parents need to be part of their children's education. Even teachers organisations acknowledge the importance of teachers working together with parents to promote participation (Mashishi, 2001). According to the demands of South African

Council for Educators (Republic of South Africa, 2000), teachers should recognise parents as partners in education, promote pleasant relationship with them and to inform parents adequately and timely about the well-being and progress of the learners.

Furthermore, Section 4 of the National Education Policy Act (Republic of South Africa, 1996b), states that as one of the guiding principles in education, community involvement should be recognised and all interested parties must be involved in all facets of the education system. It spells out that it is the Principals' responsibility to assist and support all stakeholders especially parents in performing their duties (Department of Education, 1996). Section 19 of South African Schools Act, state that, in order to involve parents about schooling, principals must present their plans for school improvement at governing body meetings. Khumalo (2008) state that quality education will improve and children will achieve better at school when more power is given to parents. Sanders & Sheldon (2009) in their studies revealed what important role a strong positive bond between home and school can play in the development and education of children. Ndlovu (2011) in his own study in South Africa on parental involvement in teaching and learning and revealed that the family is seen as the backbone in the child's education.

Recently in an address delivered at a school governing body awareness road show in Mehlaneng Stadium, Tembisa in the Gauteng Province on 14 February 2015, Mr M E Tau, the District Director for Ekurhuleni North in the Department of Basic Education (DBE), states that the South African government takes parental involvement in education as a serious issue. As a parent, you have the chance to assist all learners at your child's school. Also, that Education is a societal issue and parents must take the opportunity to ensure that the best possible quality of education is provided to learners. Experience has shown that increased parental involvement has a positive effect on academic and social performance in schools (Department of Education, 2015).

Regarding the home-school relations, Lemmer (2012) attests that a client orientation rather than a partnership orientation to home-school relations is the trend in parent-teacher conferences. The study added that parents and teachers need to share and learn from each other during regular open two-way communication sessions, having the interest of the child at the centre. While Van Deventer & Kruger (2009:09) view that the phenomenon of parental involvement has a significant effect on the quality of learners' experience of teaching and learning in the school, and on their outcomes, other studies

argue that some benefits attached to parental involvement are an improvement in the school academic performance, reduced dropout rates, a decrease in delinquency, a more positive attitude towards the school, and less behavioural problems (Squelch & Lemmer, 2004, as cited in van Deventer & Kruger, 2009).

In view of the above, the government is committed to improving the partnership between school, the family and the community. Henderson et al (2007) state that the school-home partnership should be built on the fact that all families, no matter their income, race, education, language or culture, want their children to do well in school, and can make an important contribution to their children's learning. Existing research indicates that parents' involvement in school activities is low, especially in the rural areas and lower socio-economic areas in South Africa (Van Wyk & Lemmer, 2009; Mmotlane et al., 2009:529). The anecdotal evidence shows that, at this stage of the South African education development, the involvement of parents in schools is not well developed and entrenched to be of benefit to everyone (Ndlovu, 2011). There are still issues of parents staying away from schools and educators not welcoming parents in schools (Van Wyk & Lemmer, 2009, Nelson Mandela Foundation, 2005).

Debates surrounding this issue show that the actual PI in South African schools still remains weak even today notwithstanding that the reforms created a parent-friendly space in schools and increased the focus on the parents' role (Jonas, 2013; Lemmer 2012). Taking into consideration all the elements discussed above on parent participation in public schools, this study also focused on how a strong partnership can be formed between educators and parents in East London Education District.

2.7 Parental Involvement and learners' Academic Achievement in Mathematics

According to Smith (2011), a child's education starts at birth. Experts agree that the most crucial years of learning actually come in the first six years of a child's life. This means it is parents who hold the key to a child's future academic success. Parents' role in the lives and in the academic achievement of their children is centrally important. Not only do they offer guidance and support, but they also greatly influence the results of their children. According to Parcel, (2012) in an article on the importance of parental involvement quoted, "parental involvement is a more significant factor in a child's academic achievement than the qualities of the school itself" (North Carolina State

University, 2012:174). In other words, parents are in position to balance any school deficiencies by increasing their involvement in the educational process. Furthermore, parents need to be aware of how important they are, and invest their time in their children in checking their homework, attending school events and letting kids know school is important (North Carolina State University, 2012).

Robinson & Harris (2014) affirm that parents do indeed have an influence on their children. In particular, expectancy-value theory highlights the importance of socializers such as parents to children's developing expectancies for success and task values (Briley et al., 2014; Harackiewicz et al., 2012). In learners' cognitive development and school achievement, the role of parents is very critical. Studies have added that parental involvement in learners' schooling does lead to many positives such as improved educational outcomes; homework completion; and better parent – child and parent – school interaction (Mmotlane et al, 2009; & Epstein 2004).

In a study which interviewed Euro-American, Chinese-American, and Taiwan Chinese mothers and fathers about how they facilitated their preschool or kindergarten child's development in Mathematics (Huntsinger et al., 1997), it was found that, the Chinese-American parents gave more direct, formal Mathematics instruction to their children than Euro-American parents. They also gave enough time for Mathematics practice, and support their children more in Mathematics-related activities. The results showed that a combination of the amount of parents' teaching children and the child's time spent in Mathematics practice significantly predicted the child's tested Mathematics skills. Providing a supportive learning environment at home requires parents' time as well as financial resources. Generally, study based on meta-analytic syntheses, showed that parents' communications with their children about school issues are vital and connected to learners' academic achievement (Hill & Tyson, 2009). In essence, the most influential factor which can promote higher achievement levels is parental involvement. Parents need to encourage a sense of importance on the learning process and the value of academic achievement, in order for students to perform maximally. In order to improve academic achievement, parents need to establish an effective motivational approach and it is important that they become active participants in the learning process to ensure that their students have the tools and support necessary to be an effective and efficient learner for the long term.

Furthermore, Beverage (2013) states that parents, who exhibit a love and motivation for learning new things and exploring the world around them, tend to nurture kids who place an intrinsic value on learning. Parents need to show positive learning behaviour and this does not require lots of money to demonstrate. For example, parents can take their children to local places and explore the environment, local landmarks and historic places within the town which they live. Naturally, children are innately curious early in life, they are inquisitive and often ask questions about the different things that they see around them. To decrease the probability that at some point your child may grow out of that curious stage, parents can demonstrate that even at their age they are still curious and fascinated by learning new things. Parents need to be willing to learn enthusiastically with curiosity and let their children enjoy the experience with them, and this will promote a positive attitude towards learning for their children. Ironically, it is not the lack of money that is responsible for poor academic performances, but how the lack of money would require the parents to be more efficient with their time to provide the proper academic support. From these observations, it can be concluded that it would be much easier to influence parental effort than attempt to change a family's social or economic status. Therefore, if our goal is to improve academic achievement, we need to educate parents on the important role that they play in academic achievement and provide resources that they can utilize to be more involved in the educational process of their children

Furthermore, among other roles expected of parents in order to become an effective academic influence in their child's life is by reading together with their children daily, making sure that conversations between parent and child are "vocabulary rich", and using the resources, which may be available to them, within their communities (Smith, 2011). Some studies have affirmed that when considering the educational factors that influence children, parental involvement is one of the most important ones. Those interactions extend beyond the engagement with schools, to the home life and the expectations and values for education that are communicated directly and indirectly to children (Hill, 2009). It is further stated that, sharing expertise with their child's teacher is another excellent involvement opportunity for parents, and that Parents should also plan to occasionally visit their child's classroom. In the view of Westmoreland, Rosenberg, Lopez, and Weiss (2009), when you examine how much parental involvement influences higher levels of achievement, it has been suggested that in order for schools alone to produce the same learning gains without parental involvement, schools would need to spend approximately one thousand US dollars more per student to achieve the same learning gains. It implies

therefore that; parental involvement is the most influential factor which can promote higher achievement levels. Thus, the following are some of the roles of parental involvement in learners' academic achievement.

2.7.1 Homework

Homework as an instructional tool is one of the most popular and commonly used in home-based involvement. Homework is a duty in which parents are involved more directly in their child's education (Katz, Kaplan, & Buzukasshvily, 2011; Wilder, 2014). Literature show that a continuous parental involvement all through the process of child's education can enhance academic achievement, and one very effective way for parents to involve themselves in their children's education is through homework (Deplanty et al., 2007). Homework is given by educators regularly because practice is needed before children fully understand new concepts and develop skills. It increases the amount of learning time available and assists students to do more in-depth learning. Nonetheless, study on parental involvement in homework is still indecisive regarding its effectiveness (Patall, Cooper, & Robinson, 2008; Wilder, 2014; Wingard & Forsberg, 2009). This is because, while some studies support parents' involvement as a positive practice, as it can improve academic achievement, to others it is a mere timewasting exercise, which often causes discomfort, anxiety, and conflict in the family due to disagreement over homework (Murray et al., 2006; Patall et al., 2008). The findings of some meta-analyses submitted that, at home parental involvement was not positively related to achievement, and that homework assistance was not actually positively correlated to learners' academic achievement (Dumont et al. (2013).

These types of findings may be explained by the fact that most parents are not trained to teach educational concepts, their difficulty notwithstanding. Therefore, it may not benefit learners much, especially, from this particular type of parental involvement and that monitoring a child's homework completion does not affect academic achievement (Van Voorhis, 2011). Studies reveal this could be because of the different parents' behaviours when they are involved in their child's homework (Dumont et al., 2012; Dumont, Trautwein, Nagy, & Nagengast, 2014). To further explain the irregularities in the empirical literature, studies suggests that parents' involvement in homework is better examined in regard to more proximal learning outcomes including motivational (e.g., attitudes towards homework and school learning, perceptions of competence), cognitive (e.g., strategy use, planning, among others.), and behavioural aspects (e.g., homework behaviours, study

habits etc.), which ultimately influence student achievement. In addition, the study acknowledges the importance of studying 'non-achievement measures' such as student attitudes and motivation as mediating variables in the relationship between parent homework involvement and achievement (Patall et al., 2008).

According to Mestry (2004), parent's gain insight into what the child is doing at school and can also monitor progress when they are assisting their child with homework. Parents must see doing homework with their child as quality time spent with the child (Mestry, 2004), and parents should make the effort to be part of their child's education. Grolnick & Slowiazek (2000) found that children of parents who monitor their progress often are more likely to succeed. Engelbrecht (2001) emphasized in his findings that, when a child is having trouble, the parent will be able to recognize this in his interaction with the child while doing homework and then take the initial steps in contacting the school. The parents need to monitor their child's homework and out of school activities. Parents need to take an active interest in the happenings of school. The idea that parents can positively influence their children's education is seen as common sense by many researchers. Lewis (2004) advocates that children spend more time at home than they do at school and parents have the opportunity of one-on-one situations with their children. The study states further that the home environment provides for numerous teaching situations for both parent and child.

Notably, communicating through questioning will ensure that the parent gains knowledge of school's homework policy and its relevance for the child's educational growth. The most practised of all types of at-home involvement is the giving of homework assistance to learners (Chen 2008; Patall et al. 2008). Homework should be able to convey to parents what their children are learning and to give them an opening into useful conversations about school and education in general in order to be beneficial. Parental input in homework assistance is determined by children's desires and demands to be assisted by their parents in their homework. The likely advantages of Mathematics learning at home through homework, usually given by educators, might be an eye opener for learners to learn during non-school hours and highlights the potentially important role of parents in homework. In this type of involvement, learners will be encouraged and inspired to do their best. Monitoring of children's homework implies parents' participation in their education. Although, few studies find the difficulty of the impact of homework assistance obvious, research findings have showed that increased involvement in monitoring,

enforcing, or helping with homework were associated with development of extrinsically motivated learners (Katz, Kaplan, & Buzukasshvily, 2011; Wilder, 2014). However, Sheldon and Epstein (2005) assert that Mathematics-centred, at-home learning activities were positively linked to number of learners found capable of doing well in Mathematics tests.

However, Constantino (2007), added that the above view notwithstanding, it is essential for teachers to have an understanding of learner's and parent's backgrounds, to assist them in order to adequately determine the best learning methods for students and how to involve parents in their education. According to their study, it is only parents with a higher education level that are better qualified than less educated parents to help children with homework, since some parents are less knowledgeable in subject areas in higher grade levels. They concluded that homework is a learning tool that can be used to increase parental involvement at school and at home (Constantino, 2007; Deplanty et al., 2007). Another good explanation about the relationship between parental involvement and academic achievement depend on the correlation between the two constructs. For example, learners who are struggling academically and have lower achievement scores may influence their parents to become more involved in their education (McNeal 2012). It is the belief of many educators that homework will improve learners' academic achievement, enhance learners' organisational and study skills, inspire learners to become independent learners and critical thinkers, and involve parents more directly in their child's education (Constantino, 2007; Deplanty et al., 2007).

2.7.2 Home Environments

An important issue that needs to be considered is the environment in which children live and how such environment affects them as individuals (Pittaro, 2008). According to Ogbemudia and Aiasa (2013), environment can be referred to as the physical and psychological conditions that affect children. This would be the immediate surroundings in which the pupils find themselves. In the view of Mestry and Grobler (2007), the influence of the home and family environment on learners' academic achievement has not been given the attention it deserves. They added that, often, it is not a lack of interest that prevents parents from becoming involved in the learners' education, but due to the challenges of poverty, single parents, cultural and socioeconomic isolation. Graham & Barnard (2010), state that the home environment and parental involvement in learning are two vital influences or support that families provide for their children at home. Bouffard

& Weiss (2008) state that parental involvement includes creating an environment that is conducive to, diverse and supportive of the needs of the child as he or she strives for academic success.

According to Biddulph, Biddulph and Biddulph, (2003), it is the responsibility of parents or guardian of the learners to provide the right home environment that facilitates effective learning for their children. In other words, a wholesome family environment with a joint effort from both parents would lead to a more conducive environment of support for the learner, which will in turn, generate a more academic, friendly situation, resultant in enhanced learning potential for the child. Encouraging learning environments that incorporate meaningful mathematical experiences are linked with higher achievement, and sincere home/school partnership has also been found to increase learner's achievement significantly. Ogbemudia & Aiasa (2013) maintained that physical and psychological conditions of the home environment affect the academic performance of the children. Parents' active role in shaping their children's future Mathematics' attitudes, motivation and education of a learner is key and imperative, even before the student enters school. Parents have the ability to kill or instil the importance of a quality education, which is reflected in the performance of the child. The bridge between home and school can prove valuable because this connection supports the process of making learning real and relevant as well as the student's development of the ability to transfer and connect each environment individually and collectively (Wolfendale & Bastiani, 2000). Adesehinwa (2013) explains that, it has been observed that students exposed to the same lessons by the same teachers perform differently when they are appraised.

In other word, there are other factors influencing students' academic achievement outside the school environment. Adesehinwa and Aremu (2010), argue that school environment alone cannot be responsible for the differences in the academic achievement of gifted and non-gifted children. Hence, many other uncontrolled variables can be traced and be held responsible for academic achievement of students generally. However, Tenibiaje (2009) views family background as the most important and strong factor in determining the academic achievement attained by the student, and that the greatest influence among family factors are, social class variables, educational and family environment. Collins (2007) defines home as a place where learners live with their parents or guardian, and as the place where they are groomed. The family is a social unit in any society and it is the source of early inspiration and experience for children. The home has great impacts

on the child at the earliest possible time of his life, more so, at a time when his mind is most receptive. Ekanem (2004), explains that the child often sees the parents, siblings and things in their immediate environment to be most significant and they are capable of promoting or diminishing him in self-worth and academic performance.

The achievement of a child at school positively or negatively is influenced by what the child learns at home and how his/her family motivates him/her towards education. A child's home environment can be seen as an agency that aids in the construction of student attitudes and academic achievement. Parents play an important role in their child's learning. The level of academic performance of students could be traced to the difference in psycho-social, emotional fortification in the family background, bearing in mind the intervening effect of high and low socio-economic. Apart from being actively involved in their child's education, parents also provide an enabling warm, and supportive home environment that can affect learning for their children. A healthy home environment offers emotional security to children during their study but schools cannot simply provide a continuation of the home environment, though they can play an inestimably important role in laying the foundation for children to learn to read. The family, being a powerful influence on the child and its importance as a primary agent of socialization could in no doubt enhance or hinder the academic achievement of the child depending on the social climate in the family.

At home, parents can assist their children by directly teaching them and helping them review school material (Pomerantz, Moorman, & Litwack, 2007). They may also affect their children's motivation to achieve by stimulating their curiosity, bolstering their self-confidence, and fostering a mastery orientation toward learning. A more favourable home environment motivates a child to do extremely well in school. In a child's education, helping with homework and providing a constructive learning environment at home are the most effective roles of a parent (Bempechat & Shernoff, 2012). In home learning activities, parental involvement among other aspects implies parent-initiated activities or child-initiated requests for help, ideas or instructions from teachers for parents to monitor or assist their own children at home on learning activities that are coordinated with the children's classwork. It is needful to inform parents about the importance of their involvement on their children's mathematical skills and knowledge in order to provide more positive educational experiences at home. Bicer et al. (2012), state that parents need to consider their support to their children's mathematical development as of

importance, in order to provide as many opportunities as they can, and that learners who have had opportunities at home to learn Mathematics demonstrated more mathematical achievement than their peers who lacked such opportunities.

Research indicated that creating an encouraging home environment was important for the reading and Mathematics achievement of learners, and showed that providing a conducive home environment was one of the options available to impact children's Mathematics achievement (Zadeh, Farnia & Ungerleider, 2010). It is essential that parents become teachers within their homes. El Nokali, Bachman & Votruba-Drzal (2010) view parental involvement as "a product of the interaction between the influences of school and home settings by providing continuity between the two environments" (p. 989). For example, parents' knowledge or awareness of the classroom instructional goals will provide materials and support at home to assist with reaching and maintaining the instructional goals at school. Parents can increase or decrease a child's excitement about Mathematics or their anxiety about Mathematics. Boaler (2008) stated famous mathematicians were inspired by problems and puzzles given to them by family members at home and not inspired by school teaching. If you give a child a set of pattern blocks, they will do all sorts of mathematical procedures. "One of the very best things that parents can do to develop their children's mathematical interest, is to provide mathematical settings, and, to explore mathematical patterns and ideas with them" (p. 175).

Epstein (2009) identified home learning environment qualities as important part of family social capital and parental involvement in their children's education. Activities of home learning include reading with the child, singing songs, drawing, learning about letters and numbers, visiting libraries and museums and supporting children to have opportunities to play with other children (Sylva, Melhuish, Sammons, SirajBlatchford, & Taggart, 2004). Admittedly, research in the United Kingdom indicates that parental involvement in home learning activities is strongly associated with better cognitive outcomes in young children (Siraj-Blatchford, Sylva, Muttock, Gilden, & Bell, 2002). Furthermore, Epstein (2009) submits that the quality of the home learning environment is associated with other social capital factors, such as parental occupation and education level. Ultimately, families with more resources are likely to be better prepared to provide these kinds of educationally encouraging environments for their children. Parents are the ultimate starting block in a child's mathematical journey. At home, parents can assist their children by directly teaching them and helping them review school material (Pomerantz, Moorman, &

Litwack,2007). They may also affect their children's motivation to achieve by stimulating their curiosity, bolstering their self-confidence, and fostering a mastery orientation toward learning (Bempechat & Shernoff, 2012). Parents should encourage reading and writing at home. Henderson and Kaap (2001) provide the following guidance for parents to create a good place for the child to learn. When necessary, parents should praise and encourage their child, emphasize efforts done and achievement attained. The home life and feeling of belonging in the family was evidence to solidify the importance of the parent and child relationship on reinforcing the self determination to succeed. At home, parents need to monitor the way the child spend his or her time outside school, establish clear rules and routines for the child to obey, control television viewing, monitor their children's academic progress, supply child's need, encourage the child to discuss information about the school and respond with understanding, to create an encouraging environment for child at home to study.

2.7.3 Motivation and Academic Achievement

Experts have examined the role that parents play in developing intrinsic and extrinsic motivational tendencies in their children (Deci & Ryan, 2009). Regardless of the title that they assign those theories, they all revolve around the idea that motivation can be internalized or it can be supplied from an outside source. It is said that "Teachers and parents frequently find themselves frustrated with their learners or children, and about how to motivate them to try harder on their school-work" (Deci & Ryan, 2009: 145). Study described two sets of models by which parental involvement can effect achievement: skill development models and motivational development models. The idea behind skills development models is that parents' involvement in school activities provides learners with skill-related resources such as cognitive skills and metacognitive skills. Motivational development models suggest that parental involvement benefits children's achievement because it provides them with various motivational resources that boost their engagement in school. Generally, the idea is that parental involvement can have a direct effect on achievement by improving children's' skills (such as by helping with homework) or an indirect influence by increasing motivation for school or improving student behaviour, which are linked with achievement (Pomerantz et al. 2007).

According to Deci & Ryan (2009), there are two distinct types of motivation under the SDT model by which students can be influenced. These are autonomous motivation and controlled motivation, each of which can be subgroup into two based on intrinsic or

extrinsic philosophies. Autonomous motivation involves engaging in an activity with eagerness and volition, with a sense of choice and willingness; while controlled motivation involves doing a task with a sense of pressure, demand, or coercion. If a child exhibits intrinsic motivation where they are engaging in a task simply because they find it gratifying or interesting, it is a form of autonomous motivation. A child can also exhibit autonomous motivation if they engage in a task because they deem it “personally important”, which in itself is a deeply internalized form of extrinsic motivation. Motivation is dependent on the student’s perception of their own competence (Huetinck, & Munshin, 2010). If a student is confident in his/ her abilities, then they are more likely to be motivated to engage in that task. Controlled motivation is when a child completes a task to receive a reward or to avoid some type of punishment. It also happens when the child feels a sense of approval for completing a task or a sense of guilt or shame for failing to complete the task. Furthermore, they discuss that intrinsic motivation tends to be more effective than a reward system (extrinsic motivation). In school, when a child exhibits autonomous motivation, it results in a greater internalization and better comprehension of the subject matter, and they tend to have a better conceptual view and be more creative (Deci & Ryan, 2009). This occurs because they have a deep interest in what is being learned and place a personal value on learning the concept. In contrast, students who are influenced by controlled motivation, tend to memorize facts and not fully internalize the concepts.

For sustainable and more positive results, parents are encouraged to provide autonomous motivations rather than controlled motivations (Deci & Ryan 2009). Although a child can be motivated to complete a task because of reward, it may decrease their interest in the activity itself. As a result, if that child is motivated to do well in school solely by a rewards or consequences routine, then that child may tend to discontinue those activities once that stimulus is removed. However, if a parent inculcates in their child a sense of personal satisfaction for accomplishing goals, and a sense of competence early and often during the educational process, then that child will be more likely to continue to engage in the education task because they find it to be personally satisfying and relevant (Deci & Ryan 2009). The most successful individuals are the ones who never stop learning and growing throughout their lifetime. Display of love and motivation by parents for learning new things and exploring the world around them tend to nurture kids who place an intrinsic value on learning. It does not take a fortune to demonstrate positive learning behaviour. Parents can take their children to local places and explore the environment, local landmarks and historic places within the town that

they live. Children are innately curious early in life, they are inquisitive and often ask questions about the different things that they see around them. To decrease the probability that at some point your child may grow out of that curious stage, parents can demonstrate that even at their age they are still curious and fascinated by learning new things (Beverage, 2013). Parents need to be willing to learn enthusiastically with curiosity and let their children enjoy the experience with them, and this will promote a positive attitude towards learning for their children which is cost free.

Once the parent establishes an effective motivational approach to elicit academic achievement, it is important that they become active participants in the learning process, to ensure that their student has the tools and support necessary to be an effective and efficient learner for the long term. In Smith's (2011) point of view a child's education starts at birth and many scholars agree, and the most crucial years of learning actually come in the first six years of a child's life. In other words, parents hold the key to a child's future academic success. The U.S. DOE has developed a dual capacity framework aimed at increasing parental involvement. Prominence has been given to explore the effects of parental involvement on learners' achievement, in Mathematics as well as developing programs to increase involvement; this indicates the importance of parental involvement in the educational process. Additionally, parental involvement has a strong, positive effect on learners' achievement because children tend to work harder when their parents put more effort into their education. When you examine how much parental involvement influences higher levels of achievement, it has been suggested that in order for schools alone to produce the same learning gains without parental involvement, schools would need to spend approximately one thousand US dollars more per student to achieve the same learning gains (Westmoreland, Rosenberg, Lopez, & Weiss, 2009). In essence, parental involvement is the most influential factor which can promote higher achievement levels.

Interestingly, when schools increased the amount of resources available for the students, parents seemed to decrease their levels of involvement (University of New Hampshire, 2008), which seemed to lessen the intended effects of the increased resources. Common sense would suggest that socio-economics would have a huge effect on student achievement. However, professors De Fraja, Oliveira and Zanchi, suggested that the main effect that socio-economic has on academics is the amount of effort that the parents put in (University of Leicester, 2010). They stated that the main channel through which

parental socio-economic background affects achievement is through effort (University of Leicester, 2010). Parents from a more advantaged environment put in more effort, and this positively influence the educational achievement of their children (University of Leicester, 2010). Students from privileged backgrounds are no more likely to try harder than students from disadvantaged backgrounds (University of Leicester, 2010).

However, there is a tendency to decrease in parental involvement per child in a home when the number of children in the home increases (University of Leicester, 2010). A logical conclusion can be made that the larger the family, the more resources would be needed to support the family, resulting in parents spending more time outside of the home trying to acquire those resources. Also, if the time has to be divided among the children in the home, then an increase in children would result in a decrease in time and effort allotted to each individual child. Therefore, it is not the lack of money that results in poorer academic performances, but how that lack of money would require the parents to be more efficient with their time to provide the proper academic support. It can be concluded that it would be much easier to influence parental effort than it would be to attempt to change a family's social or economic status. Hence, if our goal is to improve academic achievement, we need to educate parents on the important role that they play in academic achievement and provide resources that they can utilize to be more involved in the educational process.

2.8 Schools-Parents relationship and Parental Involvement

In Epstein's extensive work on school-family-community partnerships, the outline of schools' responsibilities with respect to each of the six types of involvement was established in her framework. For each type of involvement some sample practices are mentioned and many more practices corresponding to each type of involvement are also stated.

Type one: Parenting

In the act of parenting, the role of schools is to help families create home environments that support learning by providing them with information about such issues as children's health, nutrition, discipline, adolescents' needs, and parenting styles. The schools must seek to understand and integrate aspects of their learners' family life into what is taught in the classroom and schools are challenged to make sure that all families who need this type of information receive it in the right ways (Epstein et al, 2009).

Type Two: Communicating

Parents get connected with the school and it is part of the schools' role in ensuring that parents are brought to the schools early in the academic year, before learners develop problems, so that their first communication with them may be positive in nature. In the process of parent-school communication the school must apply different types of techniques for communicating with parents about their children's progress, decisions affecting their children, and school programs in general. For example, parent-teacher conferences, phone contact, report cards. Some schools sign contracts with parents in which expectations for students, teachers, and parents are noticeably defined (Epstein, et.al, 2009).

Type Three: Volunteering

The school usually encourage parents to be part of the school activities and programs. They do this as part of their responsibility to enhance their connection to families by giving the opportunity to the parents to act as volunteers in school functions and attend school events. According to Epstein (1995), families who volunteer grow more familiar and comfortable with their children's schools and teachers. From the framework, volunteering efforts that tap parental talents enrich school programs and, particularly in upper grades, facilitate individualized learning. In addition, the use of a volunteer coordinator is advised especially at secondary school levels, where coordination of volunteer talents and time with teacher and learner needs becomes increasingly complex. Schools mostly define the term volunteer broadly enough to accommodate a wide range of parental talents and schedules. Schools must encourage learners to volunteer in their community as part of the learning process.

Type Four: Learning at Home

The effort of the school in learner's education starts and ends at school while parental participation in children's education takes place in the home. The parents are expected to reinforce the school activities with the assistance given to learners at home. According to Epstein and Sheldon (2006), the school should work in collaboration with the parents by increasing parents' understanding of the curriculum and the skills their children need to develop at each stage in their schooling, inform parents about their systems of tracking

learners and other practices. Schools must design a menu of interactive work that taps parents' support skills and involves them in the learning processes, work with parents to ensure that students set academic goals, prepare for career transitions, and make appropriate course selections. The aim of all these is that it will help parents to make decisions that are in their children's best interests. It may also go a long way to bridge any cultural or class disconnect between home and school environments.

Type Five: Decision-making

In learners' academic achievement, schools are expected to involve parents in governance, decision-making, and advocacy roles as part of the strategy to fortifying links between schools and parents. Hence, parental participation in decision-making is a comprehensive program involving parents in learning support activities which is associated with improved learners' academic achievement. It may be may be strengthened by including parents in school site councils, parent-teacher associations, and other committees. The acts of parental participation in decision making may also help to make schools more accountable to the community (Epstein, et al 2009)

Type Six: Collaborating with the Community

Learner's academic achievements cannot be achieved devoid of the contributions of families, schools, and community organisations and leaders. The school's role is to draw regularly upon community resources to support their efforts to educate children. Therefore, community representatives and resources may be tapped for each of the other five types of involvement: communicating with families, volunteering, supporting learning, and participating in school committees. Learners are provided with more opportunities for learning and for linking school knowledge with real world opportunities. In their daily activities they associate with individuals, other than their parents and teachers, who reinforce the importance of learning. Comer (2001) in his study emphasised the school's responsibility to initiate the partnership between school and family'. The study added that the school is the corridor for all children and that it is the only place where a significant number of adults are working with young people in a way that supports them to call on

family and community resources in order to support growth systematically and continually.

The outcome of a group of research studies on parental involvement conducted over the period between 1993-2002 showed that when schools, families, and community groups work together to support learning, children tend to do better in school, stay in school longer, and like school more (Henderson et.al 2007). In the view of Epstein and Rodriguez-Jansorn (2004), learners of involved parents have been shown to have higher achievement in school and that the principal is the driving force in the creation of a parent-friendly school environment. Therefore, the principal must facilitate a collaborative, democratic environment in which opinions, beliefs, and ideas of parents are listened to and acted upon. Stelmach and Preston (2007) add that the school leader needs to begin with a mind-set which focuses on a collaborative, democratic leadership style, and in order to implement this leadership style, the principal should provide opportunities for ideas and opinions of parents to be heard.

The school must include parent in decisions that impact the lives of their children (Gordon & Seashore-Louis, 2009). As soon as an atmosphere of collaboration is initiated, parents would naturally see positive results from their involvement. Moreover, the school principals must also create a system that is sensitive to time and other issues parents encounter in the course of the learners' schooling. Teachers must as well take time to learn about the cultures and traditions of the families represented in their classrooms and be prepared to respect and honour religious and cultural practices. Matuszny et al. (2007), state that parents should be engaged in conversations early and often about their child and the school in general. There should be no secrets kept from parents about their own child on every aspects of the child development. According to Shedlin (2004), if schools indeed want all parents to have the opportunity to be heard, meaningful scheduling is a must. The school will need to integrate other interesting activities into their program. The study further stated that parent/teacher conferences should be scheduled creatively and adaptably. This may imply that there are multiple opportunities for parents to attend school functions with provisions made for transport, childminding, and food (Payne, 2006). Again, during parent conferences, teachers and support staff need to create relaxed, comfortable environments and convey their genuine commitment to an equal partnership with the parents (Henderson et al., 2007; Hoover-Dempsey et al., 2007).

In a related study, it was stated that staff should be encouraged to create a system by which they may assist parents to help their children with homework (Ingram et al., 2007), and that having a teacher-parent homework guide may be a step in the right direction. Upon establishment, communication should be proactive, focus on positives, and occur frequently, openly, purposefully, and respectfully (Lloyd-Nesling, 2006). Principals as the head of the schools should be conscious of the unique needs of their parental groups and seek out school and community opportunities to meet those needs for the betterment of the school and the parents (Henderson, et al., 2007; Ingram et al., 2007; VanVelsor & Orozco, 2007). In addition, studies indicate that, at home, parents can promote high achievement and set educational goals with their child (Patel & Stevens, 2010; Pomerantz et al., 2007). Parents can arouse their child's cognition through experience, dialogue, and educational materials (Guo & Harris, 2000) and parents can also encourage out-of-school learning (Hoover Dempsey et al., 2007). In the view of Howard (2007); and Payne (2006), the school principals must first communicate the importance of parental involvement and integrate professional development for school staff which may include working with parents, increasing cultural competencies, and increasing awareness of socio-economic differences. The study added that, teachers must be convinced of the necessity of parental involvement and provided direction and later follow-up concerning the implementation of a parental partnership model and that staff members need to be on board before a model can be implemented successfully. The ultimate aim is to form a community of practice in which all members make a joint effort to work towards learners, academic achievement. Pattnaik and Sriram (2010) say that one important element of a successful school is parental involvement.

2.9 Gender Bias and Parental Involvement

According to Rudasill & Callahan (2014), gender has been identified as one of the reasons that play vital roles and expectations why parents do not hold each child within the home to the same standard. Parents' expectations are not the same from one child to another. However, it is not intentional neither is the bias intended too, but that society has its own established gender roles and expectations that we subconsciously accept and promote. From early stage, all through a child's development, a lot of parent train their children based on some traditional roles (Rudasill & Callahan, 2014). The study stated further that often parents of small children are seen teaching the boys hands-on activities; while teaching the girls how to read and how to develop social graces (intellectually stimulating activities). In the long run, these early activities tend to influence

academic achievement (Rudasill & Callahan, 2014). The role of parent in nurturing their children's interests, values, and goals is very vital. The foundation of Children's understanding of gender role is formed from the family; therefore, there is need for parents to be careful not to promote gender stereotypes (Rudasill & Callahan, 2014). According to the study, boys are often seen performing differently than girls in different subjects, and that these differences originated from subconscious parental behaviours. The study cited common practice example of fathers helping with Science and Mathematics homework; while the mother helps with English and Social studies, which may promote a gender bias within the children (Rudasill & Callahan, 2014).

Large number of people holds the view that boys do better than girls, and this view tends to affect the attitude of girls in Mathematics. But in a study conducted by Farooq and Shah of secondary school learners in Pakistan found that there was no significant difference in confidence of male and female learners towards Mathematics at secondary school level (Mensah, et al. 2013), but on the other hand, they found that learners' success in Mathematics depended on attitude towards the subject. However, some studies have found gender difference in learners' confidence in Mathematics, and in comparison, that girls lacked confidence, had debilitating causal attribution patterns, perceived Mathematics as a male domain, anxious about Mathematics and have lower self-confidence in Mathematics than boys (Mensah, et al. 2013). There had been numerous studies on gender differences in educational achievement, effect, and attitudes due to low representation of women in courses or careers involving advanced Mathematics (Else-Quest, Hyde, & Linn, 2010; Halpern et al., 2007). These studies indicated that, there is no gender difference in the development of number of concepts among infants and pre-schoolers (Spelke, 2005). However, gender differences in Mathematics favouring boys tend to appear in high school years (Ma, 2008; Mullis, Martin, Fierros, Goldberg, & Stemler, 2000). For example, the result of a study conducted by Pinar (2011) on differences in the Mathematics performance of a sample of 8th grade learners in public schools in the United States across gender as well as race/ethnicity using the data from National Assessment of Educational Progress (NAEP) 8th Grade Mathematics Assessment for 2003-2007, found a slight gender gap, in favour of boys, and large gender gap in other studies using specific cohorts of achievement in Mathematics of high ability learners (Fan, Chen, & Matsumoto, 1997; Gallagher & DeLisi, 1994).

Furthermore, recent study in relation to younger Australian students, the National Program for Literacy and Numeracy (NAPLAN) data for years 3, 5, 7 and 9 have showed consistent gender gap favouring males, on average, for 2008-2010 (Forgasz & Hill, 2013). Again, in the Programme for International Student Assessment (PISA) 2012, boys outperformed girls in Mathematics in more than half of the participating countries and economies, while the performance of girls was better than that of boys in five of the participating countries (OECD, 2014). Educationally, it is of high importance for parents to encourage their children in non-gender conventional ways. By this, students will be able to perform at higher rate generally and enhance unlimited goal setting. It is high time parents realise the impact of their values, views and actions over their children's self-image and discontinuing limiting their children because of their gender (Rudasill & Callahan, 2014).

2.10 Different dimensions of PI

Parental involvement has been described by some scholars in relation to the different types, meanings or dimensions of involvement. The idea behind this is that perspectives from which the issue is handled are not the same especially regarding the context in which the term is used or referred to. All the six types of parental involvement were found to be 'practically operationalized, each with its own challenges, yet holding different part of parental involvement' (Epstein, 1993). Studies have described parental involvement in terms of encouraging home conditions, communication, involvement at school, shared decision making within the school, home learning activities and community partnerships (Epstein et al., 2009; Patall et al. 2008).

Stormont et al., (2007) argue that parental involvement is and should simply be approached as a multidimensional construct. In practical terms, the pioneering work in the field of PI by Hoover-Dempsey and Sandler (1995) underscored multiple variables (also referred to as sources of motivation (Green, et al., 2007) that contribute to parents' decisions to become involved. According to Stormont et al. (2007), the model explains the multidimensional nature of parental involvement. Practically, parental involvements for parents with low school contact, who yet maintain a comfortable, constructive relationship with their child, is different from that of parents with frequent teacher or school contact, but are not perceived as helpful by their child. Parental involvement in the view of Bæck (2010) includes both administrative and an educational role.

Dhingra et al. (2007), in another study carried out on parental involvement and the transition to (junior) high school, described three types of involvement as: school involvement (i.e. parents' physical participation in school activities and gatherings); cognitive involvement (i.e. parents' use of cognitive resources such as books, to stimulate their children); and personal involvement (this is about parents' awareness and concern about their children's school life). Parental involvement is a protective factor during the transition to high school, the three types of parental involvements identified are: direct participation (such as volunteering or helping with homework); academic encouragement (through reinforcement); and expectations for grade achievement and educational attainment (through socializing of values). All the three types of involvement are essential for the positive transitioning to high school.

In a related study, McNeal (2012) describes parental involvement in relation to three latent dimensions which involves: parent-child discussion (i.e. through an authoritative parenting style); monitoring a child's behaviour (such as supervising homework tasks, regulating parent-child communication and parent-teacher involvement); and educational support practices (such as volunteering at school, visiting classrooms, and maintaining parent-teacher communication). Bæck (2010) suggests yet another explanation of PI in terms of three types, after the study of parental involvement practices in formalized home-school co-operation, based on the involvement between home and school specifically. According to Bæck (2010) the three types of parental involvement are: representative co-operation (where a single parent represents both parents); direct cooperation (where direct meetings are held between teachers and parents); and cooperation without contact (where PI is based on conversations, encouragement and other forms of support) (Bæck, 2010, p. 550). The findings of his study indicated that different types of PI are not effective as the other. In other words, some type of PI seems to be more effective than the others; in particular, the study states that parents' expectations for grades and achievement to have the most positive influence on academic achievement of adolescents (Chen & Gregory, 2009). One commonly used parental involvement framework is the Epstein model (2009) that suggests six types of parental involvement behaviour.

2.11 Efficacy of Parental Involvement in Education

Quite number of studies have indicated that parental involvement have positive impacts on learner's academic achievement and the acknowledgement of the same by stakeholders in education sectors (school administrators, teachers and the policy-

makers) who have integrated different types of parental involvement in the new educational initiatives and reforms (Graves & Wright, 2011; Larocque, Kleiman, Darling, 2011; & Topor et al., 2011). Researchers agree unanimously that, there is enough accumulated data which shows that parental involvement in children's development and learning, including the out of school dimension, makes a positive difference to children's achievement, and accrues other related mutual gains and benefits (Wolfendale, 2006:6). In the opinion of Pomerantz et al (2007), the aim of increasing parents' involvement in children's schooling is based on a wealth of research suggesting that such involvement is beneficial for children. Additionally, more literature has shown that PI is beneficial to children generally, irrespective of their age (Cox 2005 & Epstein 2005).

In a report on National Network of Partnership Schools, Epstein (2008:10) states that there are benefits from involvement of families in secondary school through partnership programs. Likewise, Decker, Decker & Brown (2007) recognised the importance of parent involvement by stating that it has become increasingly necessary for schools to reach out to all the stakeholders in their schools in order to establish and nurture supportive networks which are committed in helping all learners to succeed. In the same vein, Henderson, Mapp, Johnson and Davies (2007) affirm this by stating that: 'partnerships among schools, families and community groups are not a luxury - they are a necessity'. In addition, the partnership advocated by educational policy makers includes the expectations that parents should be available both at home and in school to work with their children in support of their education. The desire to strengthen partnerships between parents and professionals is based on the conviction that children learn more when parents take an active role in their schooling (Berger 2008).

In South Africa, there have been many changes in the South African education system since independence in 1994. For example, the South African School Act (Act no. 84 of 1996) requires all schools to create a school governing body to enable parents and communities to be involved in school activities and in their children's education. This is to enable all stakeholders, especially parents, to play a major role in the education of their children so as to bring a sense of belonging to the communities. These developments are considered as marking the end to isolate and "parentless" schools which used to be known by little or no parental involvements (Mathonsi, 2007). A large number of studies showed that parent involvement in children's learning is positively related to achievement. Even though researchers such as (Erlendsdottir 2010, Mncube, 2009, Berthelsen &

Walker, 2008 & Lemmer 2007) contend that parental involvement in school activities has a positive impact on the academic performance of their children, literature shows that the more intensive parents are involved in their children's learning, the more beneficial are the achievement. Ultimately, there are many chances of success when parent is involved in their child's learning process. In addition, it says that parent involvement in education of their children assists children to grow up to be productive and responsible members of the society. According to Fan and Williams (2010), parental involvement in the educational process develops confidence and persistence in a child, when faced with any difficulties. In other words, if parents are involved in the education of their children, it is as well saying that the school is proactive in implementing changes or development among the students. The level of parent's involvement helps teachers and school administrators also to raise the chance to realise quality reform in education.

On academic achievement, Pinantoan (2013) points out that parental involvement impact should not be underrated. The article stressed the importance of support system that a learner gets from home as equally important as his brain power, work ethics and genetics which all work in the accomplishment of his goal in life. Furthermore, Learners with two parents operating in supportive roles are a little above average more likely to enjoy school and achieve success than learners whose parents are less concern with what is happening in school. A study conducted by Cai (2003) showed that to a large extent parental involvement is a significant predictor of their children mathematical achievement and also promoted positive behaviours and emotional development.

In recent years, financial pressures on education budgets, as well as the increasing evidence on the benefits of parental involvement for children's overall well-being, are among other reasons for the overwhelming encouragement from teachers and educators for parents to play a direct role in their children's schooling and academic development. For example, individual teachers, schools and education systems in some countries are asking parents to increase their levels of involvement in their children's education and to show more commitment in their children's lives. Also, during the Clinton administration in the United States, increasing parental involvement was one of six key areas of reform initiated. At the beginning of the 2011 school year, Chile Education Minister promoted the signing of a contract of honour between parents, schools and the state, committing parents to a series of responsibilities that increase parental involvement in their children's learning, and some countries have promoted these partnerships by specifying legal

frameworks that require schools to offer parents forms of involvement (Eurydice, 2005). The efforts of this policy recognised the vital roles of parents in their children's educational upbringing, and acknowledge that parents' involvement and partnerships with schools and teachers is highly beneficial to learners.

Mestry and Grobler (2007), assert that active parental involvement improves learners' performance, decreases drop-out rates, reduces defiance, and promotes a more positive behaviour towards the school. To a large extent, parents that are actively involved in the education of their children tend to produce learners with better scores at school, be more engaged with and be more motivated in school, display better mental health outcomes, and have good behaviour. In addition, improvement on learners' cognitive and non-cognitive skills and motivational development are among other valuable outcomes of increased parental involvement. The study added that children of parents that are involved in their education, tends to have receptive language, phonetic awareness, (i.e. cognitive skills), they are also good at planning, monitoring and regulating the learning process (i.e. metacognitive skills). This can be linked to their access to relevant information, their parents' greater awareness of their abilities, by having more opportunities to practice, and because teachers are likely to develop more interest in those children whose parents are more involved because children of involved parents display a higher likelihood of intrinsic motivation and a better sense of control over academic achievement, and that they have positive perceptions of academic competence. The children of involved parents have greater motivational development, and that the reason for this is because they copy their parents' positive attitudes towards school, they can follow their parents' footsteps directly to go along with school and its challenges, and they are not new to school tasks because they have access to such information from their parents (Pomerantz, et al., 2007).

Basically, in education, parental involvement is beneficial to all stakeholders. To teachers it is encouraging to have parents supporting and appreciating their efforts on their children. It also releases the stress that educators feel when parents acknowledge how complex their job is. Likewise, learners report more effort, greater comprehension and attention in the classroom, they are naturally interested in learning and achieve better when parents are involved, while parents gain an understanding of what their children learn and also positive feelings about the school.

2.12 Highlights of PI Benefits

2.12.1 Benefits of PI to learners

There are lots of benefits that can be derived from PI by children whose parents are involved in their formal education, such as better grades, test scores, long term academic achievement, attitudes and behaviour compared to those with disinterested parents (Lemmer & Van Wyk, 2009). Henderson et al (2007) mention that parents' educational background, social class notwithstanding, their children become more successful if their parents take part in school and encourage education and learning at home. Similarly, Michigan Department of Education (2001) says that, when parents are involved in their children's education, then they are more likely to get: better school attendance, increased motivation, better self-esteem; higher grades, test scores; fewer instances of violent behaviour, lower rate of suspension; reduced use of drugs and alcohol. This view was supported by Fan and Williams (2010) in their assertion that parental involvement promotes better learner classroom behaviour and it enhances overall attitudes towards learning in many noticeable ways. The high expectation of parents and learner perceptions of these views are connected with enhanced achievements. High achievement and self-esteem seems to be closely related to positive parent participation in education. Parents can develop a healthy self-esteem in children, assisting them to work together with others, pursue individual activities and persevere despite personal challenges. Parents can help their children feel safe and loved through their support, encouragement and display of affection (Bailey, 2006).

Nichols and Sutton (2010) affirms that most successful parents offered more of a sense of meaning, purpose and valued cultural goals to their children. Learners' commitment to school is primarily fashioned by parents through the curriculum of the home, but this parental involvement is changing and that it can be influenced by school and teacher practices. According to Lemmer and Van Wyk (2009), learner's attitudes improve when parents are actively involved and that learner's attitudes about themselves and their control over their environment are vital to achievement. Importantly, attitudes are formed at home and are the products of various types of interaction between children, parents and the immediate community. When parents show an interest in their children's education and emphasize high expectations, they encourage positive attitudes in their children. When this is out of place, learners drop out of school, whereas, with parental involvement in their children's education, there seems to be a drastic reduction in school dropout rates. Studies have added that, learners are able to face problems at school,

because they have stronger emotional experience and a more stable environment and that the family effect on achievement and the family factors influencing dropping out are mediated through student engagement or commitment to schooling. The impact of conversations in the home must first be upon children's attitudes towards schooling and values about education (Lemmer & Van Wyk, 2009).

According to Kriakides (2005), learners tend to have improved behaviour when parents are actively involved in their education because learners' are likely to attend school more regularly, which will in turn enhance learners' academic performance, and that learners achieve better academically and have positive attitudes when their parents are involved. Lemmer & Van Wyk (2009) explain further that, in low socioeconomic areas, having parents who are involved in their children's education is important, for it inspires younger children from poor homes into wanting to be in school and to perform better. In essence, these learners benefit from extra motivation that comes from knowing that their parents can also be interested and involved in their education. Based on this background, school rules and regulations are easily applied and obeyed to, as learners know that their parents are part of the rules. While parents are carried and well informed about the running or operations of the school, assist with their children's homework, teachers on the other hand get to know what help can parents provide and are capable of giving. He states further that the aims of involving parents in literacy is to inform teachers about the child as learner outside school, respect one another, understanding and sincerity between parents and educators (ibid). Berthelsen & Walker (2008:36), explain that, the onus of designing and initiating innovative ways to promote greater parental involvement in school activities rest on schools. The study indicates that parental involvement is facilitated and its benefits enhanced by, for example, teachers' positive attitudes about the parental role in the classroom (ibid.). Hence, in the opinion of Berthelsen & Walker (2008), it is the responsibility of teachers to provide opportunities for parents to become more involved in such classroom activities.

2.12.2 Benefits of PI to Teachers and schools

In children's education, parental involvement is not only beneficial to learners, teachers benefit a great deal also. Nichols and Sutton (2010) opine that teachers who actively encourage parental involvement enjoy an increased sense of professional efficiency. This is as a result of confidence gained in their ability to exhibit professional skill and gain the confidence of parents. This indicates that parental involvement enable teacher to develop

more knowledge about children in the classroom and this assists in their teaching and understanding of learners by involving parents in the classroom, teachers not only learn more about the children they teach and their families, but also provide them with informal opportunities to acquire new knowledge and general skills which promotes trust between the teachers and the parents.

Epstein et al (2008) state that teachers are also accorded greater respect and enjoy understanding from parents when they are part of the school, in their remark that parents rate educators higher overall when they are involved with the school in any way. Studies assert that teaching is often an isolating experience and when parents care about their children's schooling, this isolation is reduced (Lemmer & Van Wyk 2009). One of the benefits that the study identified is improved relationships among parents, teachers and schools when teachers know parents by virtue of their involvement in activities. When parents are given the opportunity to contribute to the school's activities and decision-making, they are more inclined to support and less inclined to sabotage educational decisions (Lemmer & Van Wyk 2009). Also, all parents can contribute valuable information about their children such as interests, relevant medical details, and possible problems at home and so on. This information can help the teacher to assist the child to succeed. Hence, teachers have better communication with parents about their children and an improved understanding of the different ethnic and cultural backgrounds that make up the classroom (Nichols & Sutton, 2010; Lemmer & Van Wyk, 2009).

In addition to that, teachers receive greater respect from parents that are involved because they realize how difficult the job is. Similarly, in her study, Epstein (2008) found that teachers reported more enthusiasm for their work when there is support and appreciation from parents. This creates more positive feeling amongst educators. Lemmer and Van Wyk (2009) submit that teacher's workloads are reduced when parents play an active role in education of their children. In the same vein, Lemmer and Van Wyk (2009) also showed that teachers get relief from the stresses of supervising thirty or more children at once. If a teacher is less stressed, then that teacher is more likely perform better in the classroom and that teachers become more proficient in their activities, devote more time to teaching, experiment more frequently and develop a more learner orientated approach when the parent is more involved (Epstein, et al 2008). Furthermore, her study shows that the school's image improves in the community as programmes of parental involvement evolves as parents become more involved in academic as well as curricular

activities. In this case, the parents who give feedback can help schools develop and tailor programs which are more appropriate according to the Center for Comprehensive School Reform and Development (Epstein, 2001). Despite the acknowledged benefits of parental involvement in school, many schools are still on the fence of parental involvement. They neither take action to initiate or manage it in a more effective manner nor do they discourage it. Hence, school administrators have to boldly encourage parents to get involved and make storm surge of contribution to help accomplish the school's missions and goals.

2.12.3 Benefits of PI to Parents

In addition to the acknowledgement of different studies about benefits for both learners and educators that come as a result of parental involvement in education, few studies reveal that even parents benefit more from getting involved with their children's education (Fan & Chen 2001; Fan & Williams, 2010). According to Dearing et al, (2004), parental involvement can help parents stay informed and provide guidance on issues pertaining to their children. It is important for parents to be directly involved with their children's teachers because open communication will help parents to know when their children fall behind before it becomes a problem. The parents who spend time helping out in the classroom generally feel better about their children's education as they can see what kind of a classroom experience their child is getting. Parents that involve themselves in schools indicated an increased understanding and enjoyment of life at school (Fan & Chen 2001).

Henderson et. al (2007) affirm that parents who help their children succeed academically gain a sense of pride in their children and themselves. It is in this context that parents gain understanding of the school setup, a sense of joy and pride in their children's education when they are actively involved. Parental involvement in the learners' education increases their self-esteem, especially when they are shown how important their contribution towards their children's education has been. This will serve to boost their morale to do more in the future. Parents do develop skills in teaching their children and they also tend to develop more positive feelings about their abilities to help their children due to the increased amount of time they spend at school. Parents that are actively involved do not feel isolated from the school process because they are reassured of the teachers concerns and they recognize the complexity of the task of the teacher in the classroom (Lemmer & Van Wyk, 2009).

2.13 Promoting Parental Involvement

Initiatives to reduce the negative effects of whatever the nature of the barriers imposed on parental involvement is vital and thereby promote parental involvement in children's education. To both educators and parents it may not be an easy task, but it is achievable. Swap (1987) suggests two fundamental objectives for promoting parental involvement. These are to increase the quality of the contacts between parent and teacher and to increase the quantity of parents who interact with the school. These points are valid though, to an extent, but much more is required for the effective promotion of parental involvement. To this end, there are measures suggested by some studies that could be employed to eliminate some of these barriers. Berthelsen and Walker (2008:36) state that invitations to parents such as initiatives undertaken by schools, for example inviting parents to become involved in school activities should come not only from schools, but from teachers as well as learners (*ibid.*) Extensive information on how schools (and teachers, in particular) can design initiatives to promote parental involvement is provided by Lemmer (2007:223) where teachers described how creating family-like school environments were employed to address the parental-involvement barrier of parents feeling unwelcome at schools. For example, parents' accessibility to meeting venue was considered for parents' meeting and this made it easier for all to attend without any stress. Corrigan and Bishop, in Erlendsdottir (2010), view the relationship between the school and family as a necessity and no longer an option, and that plans must be designed to develop and strengthen this relationship and the initiative for this must be taken by schools and teachers.

Nye, Turner and Schwartz (2008), propose that parental involvement can be promoted by providing parents with knowledge and training on how best they can be involved in their children's education while the Consortium for Research on Education Access Transition and Equity (CREATE) (2011:3), recommends schools to initiate and promote parental involvement because parents could contribute in a meaningful way. The concludes that new concepts are needed to organize the establishment of teacher training programme that will have modules on how teachers can work effectively with the learners' parents to better their children's education and that the methods course work should provide opportunities for prospective teachers to learn how to write effective notes, letters and newsletters to families. The study also suggests workshops and in-service training that will involve both teachers and parents (Mestry & Grobler, 2007). According to Lemmer (2007), parental involvement, should not be seen as a teacher-issue only but

must also be seen as a departmental-issue, in order to promote parental involvement as well. Schools should provide training for their staff and that teacher education programmes should make parental involvement a compulsory module. According to Finch (2010), Teacher training must be set up to help them to learn more about the cultures of their students and parents, and these training programs must be periodically evaluated for effectiveness. Teacher's attitudes and actions will greatly influence parents' perception of schools' interest in their families and their relation with the school because teachers perceive parents from different view as uninvolved and disinterested (Carlisle, Stanley, & Kemple, 2006; Floyd, 2005). These kinds of perceptions can be corrected.

A number of studies regarding parental involvement in school activities consulted in the course of this study gave a better understanding of the common concepts that pertains parental involvement and strategies used to elicit parental involvement and the obstacles that hinder its operations in school activities. Furthermore, in the research discussed above, in one way or the other, almost all studies directly or indirectly, made use of Epstein (1989) model of parental involvement. In Epstein et al (2009), extensive research with educators, parents, students and the community, concludes that new concepts are needed to organize effective partnership programs, with more recent research suggesting a multidimensional approach. In keeping with the aforementioned, they suggest that the phrase school, family and community partnerships is a better phrase than parental involvement since the concept of 'partnership' recognizes that in addition to parents and educators, other stakeholders in the community share the responsibility for students' learning and development. This framework as proposed by Epstein et al (2009, p.16) constitute six types of parental involvement or programmes of partnership as mentioned earlier.

In Epstein's six typology framework, Swap's suggestions are represented by communication only, whilst Epstein et al's model recognizes all three components; school, family and community as overlapping spheres of influence with the student positioned at the centre. Epstein et al (2009) propose that if students feel cared for in all three domains and if they are encouraged to work hard in the role of student they are most likely to do their best to learn to do academic work in addition to other skills and talents. Epstein's comprehensive framework holds the promise to be a solution for the aforementioned barriers to parental involvement if carefully applied. Again, by involving the support of the community, both parents and teachers can access relevant and

appropriate programs and services to facilitate parental involvement for the benefit of all stakeholders.

2.14 Parental Involvement Process

There is need for the understanding behind parental involvement in their children's education. This is necessary in order to determine the nature of the relationship between parental involvement and academic achievement. Scholars view parental involvement as a multi-levelled process with five distinct levels, and that decision is the first level in the process of parental involvement (Green et al. 2007; Hoover Dempsey et al. 2005). In other words, this is the point in time when a parent decides, consciously or subconsciously, to become involved in their child's education, while the second level is deciding how to become involved. The first and the second levels initiate the process of parental involvement and therefore lead to more complex levels, which are choosing mechanisms through which involvement may influence children's achievement. Considering any mitigating variables, the fifth step in this parental involvement process includes witnessing student learning outcomes that have been affected by parental involvement.

However, as significant and impactful as all these stages are, it is the very first step that initiates and influences the outcomes of the later ones. This according to Keyes (2002) is because parents' decision to become involved in their children's education is believed to be based on parents' construction of their parental role and their self efficacy levels. The study furthermore explained that there are three types of parental role construction: parent-focused, teacher-focused, and partnership focused, and that parents who take on a parent-focused role believe they hold the major responsibility in their children's education, while on the other hand, parents who assume a teacher-focused role view teachers and schools as exclusive carriers of that responsibility. Lastly, partnership-focused parents work together with teachers on sharing the responsibility for their children's education (Larocque, Kleiman, & Darling 2011).

Regrettably, parents and teachers may not necessarily agree on the role construction because the parental roles constructed by teachers may not be in line with the ones assumed by parents, and may be evident from teachers' suggestions on how parents can become more involved at home. Some of these suggestions often include simple tasks, such as providing help when requested from the children, to more complex duties, such

as breaking a material to be learned into different parts, exhibiting and discussing adequate learning and problem-solving strategies (Green et al. 2007). Although, according to teachers' beliefs, these types of parental involvement activities are feasible in almost every family, some parents may shy away from these responsibilities. This may be due to parents' lack of knowledge regarding the required type of involvement or their own beliefs that they are not obligated to perform the given tasks. Therefore, it appears that the expected parental involvement (as designated by teachers) and the actual involvement (as executed by parents) may not be same.

2.15 Parenting Styles

Parental involvement in the education of their children has long been an issue of interest to both educational and developmental researchers (Gorard 2015). In respect of learners' academic achievement, there seems to be various influences, such as peers, teachers and more importantly, parents. Study states that parenting styles are beneficial in understanding complex behaviours and attitudes associated with child outcomes. It is parental behaviours which encompass pleasures, privileges, and profits as well as frustrations, fears, and failures (Rodriguez, Donovanick & Crowley 2009). Studies have affirmed that parenting styles impact adolescents in terms of self-esteem, sense of self-efficacy, social adjustment, and academics. In addition, the progress in learner's achievement is influenced by the decision that is made by both parents and their children to cooperate or confront each other. Also, learner's academic motivation and behaviour are directly influenced by family activities and parents' behaviour, which are seen as the external factor. For instance, there is a positive outcome for both parents and children when parents interact in a fun and loving way during children's homework time (Morawska, 2007). The foundation for parenting style and academic achievement is formed by the belief systems and attitudes in parents and their children (Brown & Iyengar, 2008).

Adolescents whose parents employ an authoritative/democratic style, characterized by warmth, firmness, and consistency are better adjusted and more intrinsically motivated to learn, although a causal direction cannot be ascertained (Cripps & Zyromski, 2009; Jeynes, 2007). Scholars have identified four parenting authority styles as authoritative, authoritarian, permissive, and rejecting-neglecting, in other words, there are four main parental styles: authoritarian, authoritative, neglectful and permissive. These four parenting styles could affect adolescence in their academic achievement (Ibukunolu,

2013). Joshi, Sherma and Mehra (2009) found these to be a fundamental element in describing the behaviour and attitude of parents towards their children. In a review of 39 studies conducted on associations of parenting styles with academic outcomes, including achievement, motivation, and school behaviours, parenting styles were considered to be the most important factors affecting academic achievement (Masud, Thurasamy, & Ahmed, 2015).

2.15.1 Authoritative Parenting Style

Basically, the authoritative parenting style is characterised by high levels of control and maturity demands in child raising, open communication and child discipline is commonly done by the use of reason and power, without tampering or affecting the child's autonomy. Studies describe the qualities of the authoritative parenting style to be responsive, they show warmth, emotionally supportive to their children, demanding and provides guidance (Hoeve, 2009). Furthermore, authoritative parenting comprehends the feelings of their children, teach them how to regulate themselves and help them to learn from mistakes made in the past (Marsigliar, Walczyk, Buboltz, & Griffith-Ross, 2007). In addition, in authoritative parenting, independence for self-identity is encouraged with provision of rules and boundaries attached for their children (Grolnick & Pomerantz, 2009, Takeuchi & Takeuchi, 2008). Moreover, the guidance received from authoritative parents helps their children to consistently follow their set rules and guidelines. They are firm with their dos and don'ts, explain reasons and understanding of the need to follow their set rules to them, and often discuss problems openly with their Children (Timpano, Keough, Mahaffey, Schmidt & Abramowitz, 2010). Research indicates that there is a positive relationship between authoritative parenting style characterised by warmth, responsiveness, and supportiveness and children's school related results (Brown & Lyenger 2008). In support of the above view, Ryan & Brools-Gunn, (2007) state that children of authoritative parents showed accomplishment in academic endeavours specifically in language and Mathematics subject when compared with children with less attention from their parents.

2.15.2 Authoritarian Parenting Style

This type of parenting style is characterised with high levels of control and demands from parents to their children along with low levels of nurturance and communication. In authoritarian parenting parents hardly explain to their children why they should comply with their set rules. This type of parenting style shows low responsiveness but high control

over their children. It is also a type of parenting style that attempt to shape, control and evaluate the attitudes and behaviours of their children according to their laid down principles (Hoeve et al., 2009). In the view of Takeuchi & Takeuchi (2008), the authoritarian parents have expectations and do not tolerate disobedience from their children. Other characteristics of authoritarian parenting is that they talk to their children instead of talking with them, and when it comes to decision taking, they do not involve their children (Alegre, 2011; Grolnick & Pomenrantz 2009). With this one-way communication, children of the authoritarian parenting have no room to voice out their need; neither do their parents give reasons for their expectations. Hence, they are categorised as demanding, expect much from their children and are not giving attention to the needs of their children. In the view of Timpano et al (2010), authoritarian parenting is said to be rigid, restrictive, and punitive in a situation where parents' force complies with their directions and to reverence their words and efforts. Some studies describe authoritarian parenting styles as forceful and demanding style (Grolnick & Pomenrantz; 2009, Timpano et al, 2010). Marsigliar, Walczyk, Buboltz, & Griffith-Ross, (2007) added that, authoritarian parenting also disciplines their children physically and emotionally. Leman (2005) states that authoritarian parents do not take verbal give and take and their position on what is right are binding to their children. This according to Baumirnd (1996), results in negative outcomes.

2.15.3 Permissive Parenting Style This is characterized by high levels of responsiveness and warmth, and they exhibit low levels of control and maturity demands. Hoeve et al (2009), state that there are two sides to the permissive parenting style, negative and positive. They added that permissive parenting is characterised by acceptance, high support for their children, no punitive, no control over their children's behaviours, and no close monitoring of their children's activities. Permissive parents have affirmative behaviour towards their children's needs, desire and actions. Furthermore, Timpano et al (2010) say they are liberal, they allowed their children to do whatever they like. In addition, permissive parents set no limit for their children. Thus by giving their children freedom, it will encourage their children to be closer to them.

2.15.4 Neglective Parenting Style

This parenting Style is known with low control and low responsiveness. It is often referred to as 'uninvolved' parenting. They are described as parents that exhibit low support and low control of their children. Alegre (2011) stressed that parents may be disconnected,

undemanding, not sensitive, and they do not set limits. Neglective parenting does not pay attention to their children's emotion and opinions. Alegre (2011) added that Neglective parents provides for their children basic needs such as shelter despite their lack of emotional supportiveness.

2.16 Parenting styles and Learners' Mathematics Achievement

Parenting a child is both an amazing joy and responsibility. Parenting or child rearing is the process of promoting and supporting the physical, emotional, social, financial, and intellectual development of a child from infancy to adulthood. Parenting refers to the aspects of raising a child aside from the biological relationship. The most common caretaker in parenting is the biological parent(s) of the child in question, although others may be an older sibling, a grandparent, a legal guardian, aunt, uncle or other family member, or a family friend. The Parent role is multitasking to include the role of educator. Naturally, parents are the child's first and most interesting teachers. The role continues to when children enter school; in fact, families' role in the education of their children is very vital. Partnering with the school, parents can help create collaborative partnerships that support all aspects of a child's achievement at school. There are many positive effects of increased parental involvement in their child's education, such as increased achievement levels (Epstein, 2008). Particularly, studies have shown the importance of parenting to the overall learning process and achievement (Belfanz & Byrnes, 2012; Redford et al., 2009).

The role of parenting is significant to individual student achievement. Evans (2005) stated that for most children, the nature of their schooling was not nearly as significant as the nature of the parenting they received, socio-economic status, or the media culture that surrounded them. Parenting involves assisting all family members to have better understanding of the development of both the child and the adolescent. Also in parenting, basic tasks of parents include roles of families to guarantee children's health and safety; to the parenting and child-rearing skills needed to get children ready for school; continual supervision, discipline, and guide children at each age level; and building of positive home conditions that enhance school learning and behaviour right for each grade level. Parenting also helps in creating a supportive home environment for children as students. While parenting also includes involvement in the child's educational process, it has not yet been emphasized specifically in the studies of parenting practices (Boon, 2007). According to Nixon and Halpenny (2010:13), parenting style is the combination of parental

control and parental responsiveness. Their study described parental control, or parental demand, as parent efforts to incorporate their children into the family by their demands in respect of maturity, their supervision, disciplinary efforts, and their enthusiasm to challenge children that disobey. Parents express their responsiveness by their warmth that shows the level to which the parents assist their children to develop their individuality, self-regulation and self-assertion.

As mentioned earlier, research acknowledges four parenting styles when the parents' responsiveness and demands are considered, namely authoritative (high, both in responsiveness and demand), authoritarian (low in responsiveness but high in demand), indulgent (high in responsiveness but low in demand) and neglectful (low, both in responsiveness and demand) (Bornstein & Bornstein, 2007:2; Nixon & Halpenny, 2010:13). The study by Huang and Prochner (2004:227) showed that some parenting styles are helpful to children in developing SRL, and encourage them to manage their own learning. Similarly, Erden and Uredi (2008:31) states that, the children of authoritative parents tend to make use of SRL strategies when compared to the children of indulgent, neglectful or authoritarian parents. The children of indulgent parents are more likely to make use of cognitive and meta-cognitive strategies than the children of authoritarian or neglectful parents. Turner, Chandler and Heffer (2009:343) investigated the link between parenting style and achievement among college students which suggests that their academic success may be influenced by child-rearing practices which lay emphasis on both demanding and responsive qualities. It was further stated that authoritative parenting styles significantly and positively relate to academic performance, but this study did not find any significant correlation between achievement and permissive and authoritarian parenting styles. In another study, it was said that the authoritative parents' children (high in demand and high in responsiveness) are likely to indulge in more SRL strategies than the children of authoritarian, indulgent or neglectful parents (Erden & Uredi, 2008:31).

However, compared to authoritarian and neglectful parents, the children of indulgent parents (low in demand and high in responsiveness), also tend to use more SRL strategies (Erden & Uredi, 2008:31). The reason for this is that authoritative and indulgent parents are responsive. This implies that they enhance individuality, self regulation and self-assertion by being attuned and supportive intentionally. In addition, they attempt to satisfy their children's special needs and demands (Baumrind, 1996:62). It was further

explained that an authoritative parenting style and the encouragement of the expression of individuality could assist children to be able to use SRL strategies and to focus on their work (Erden & Uredi, 2008:31). Research further indicated that, children who perceive their parents to be democratic and warm, are likely to develop autonomous academic behaviour (Hoang, 2007:15). It was asserted again that there is a significant and positive relationship between an authoritative parenting style and children's SRL (Huang & Prochner, 2004). Contrary to this, Baumrind (1996) states that highly demanding authoritarian parents but not responsive to their children's needs, create an orderly environments and set clear rules. On the other hand, neglectful parents are neither responsive nor demanding. Hence, children of both authoritarian and neglectful parents tend to become passive, suffer from a lack of self-confidence and show poor SRL ability, since they find it difficult to fulfil the needs of their children and not responsive (Erden & Uredi, 2008:31). Gonzalez and Wolters (2006) assert that authoritarian and permissive parenting styles do not predict their children's autonomous academic behaviour.

Parental influence was also found to play an important role in the academic performance of young adults, even when they start living on their own (e.g., on-going to university), and that positive experiences of young adults with their parents lead to greater achievement at college. Importantly, children who see their parents as authoritative are likely to show higher academic self-efficacy and better academic performances (Turner, et al., and 2009). Furthermore, while higher levels of adolescent school performance can be associated with an authoritative parenting style (Kordi & Baharudin, 2010; Assadi, Zokaei, Kaviani, Mohammadi, Ghaeli, Gohari & Van de Vijver, 2007), research indicates that indulgent parents' children are likely to perform averagely well at school, since they have a relatively high self-esteem, effective social skills, and low levels of depression (Yusuf, et al., 2009:9). However, compared to authoritarian and neglectful parents, the children of indulgent parents (low in demand and high in responsiveness), also tend to use more SRL strategies (Erden & Uredi, 2008:31). This is because there is positive correlation between academic success competence with parental acceptance and encouragement, but negatively correlated with parental control (Lakshmi & Arora 2006:50). It was suggested that in school success and competence, parental acceptance and parental encouragement have a facilitative role. Garcia and Gracia (2009) state that parental warmth and involvement are key to developing effective socialisation, but strictness is neither necessary nor of any importance. In the view of Yusuf, et al. (2009), the children of authoritarian parents (highly demanding, but low in responsiveness), or

uninvolved (low in both responsiveness, and highly demanding), are likely to perform poorly at school, prone to have less social skills, a lower self-esteem, and to have higher levels of depression. Studies further indicate that, authoritarian and permissive parenting styles correlate negatively with academic achievement. They are also uniformly negative in diverse socio-cultural contexts (Assadi, et al., 2007).

Furthermore, Gracia, Garcia and Lila (2008), added that there is a significant correlation between authoritarian and neglectful parenting styles and the poor psychological adjustment of the adolescents. Contrary to the above, studies showed that, there is no negative significant between permissive or authoritarian parenting styles and academic achievement. It was noted that permissive, authoritarian and authoritative parenting styles do not relate significantly to the children's academic achievement (Elias & Yee 2009; Pisacano, 2006). Studies also have found a significant relationship between motivation, anxiety and attributions and academic achievement. Possibly these dimensions may have been influenced by the parents' parenting style. It is generally believed that parents' involvement in the education of their children, both at home and at school is a key factor contributing to children's adaptive development (Hoover-Dempsey, Whitaker, & Ice, 2010; Reynolds & Shlafer, 2010; Tan & Goldberg, 2009).

Hence, the need to identify factors that enhance or inhibit parental involvement in education is vital. Involvement in children's education is generally known to be influenced by factors such as the parent's education level (Davis-Kean, 2005; Manz, Fantuzzo, & Power, 2004), the child's age (Kikas, Peets, & Niilo, 2010), academic skills, but also school and teacher characteristics (e.g., teacher invitations; Hoover-Dempsey et al., 2010), while little attention has been paid to investigate how parental values and practices influence parents' involvement in the educational process of the child. In the view of Sumari, Hussin, and Siraj (2010), a lack of parent involvement, discipline, and overall concern for a child's well-being are important factors for academic success or lack thereof. In addition, contributions of parent enthusiasm and positive parenting style were found important to child outcomes. Therefore, it implies that, in predicting academic outcomes, how parents interact with their children is more important than their level of involvement at school. Parenting style is not in a class of social context determined by poverty, wealth, or ethnicity. It may be teachable and changeable, the most encouraging fact for parents who want to assist their children and for those who want to help parents help their children. Sheldon et al. (2010) stated that parental involvement was associated

with stronger Mathematics achievement, but little is known from research about what educators are doing to effectively involve family and the community. The Sheldon et al. (2010) study using data from 39 schools found that, when families implemented Math-related practices, the percentage of students meeting proficiency level on Mathematics achievement grew. Lee & Bowen (2006) confirm the positive relationship between parental involvement and student achievement. Parent involvement is positively related to children's educational performance and that African American students performed better with more homework help from their parents. In their research on low-income parents, Heymann and Earle (2000), equated parental involvement with student achievement. They stated that "parental involvement is important to children's success at school, that children achieve more as result of increased parents' involvement in the education of their children. Moreover, parents' involvement has been shown to influence achievement in language and Mathematics" pg. 834. Heymann and Earle (2000) also commented that parental involvement is critical for children in mastering, reading and math. Therefore, the role of the parent as a developmental agent and/or catalyst is vital to the overall development of children.

The South African Schools Act (1996) extends the rights of parents with regard to their children's education, but also places obligations and responsibilities upon parents. In the South African Schools Act (1996), there is emphasis on the idea of partnership between all people involved in education. There is no complete way of improving Mathematics achievement without joint efforts of parents, educators, learners, and the Department of Education. Parents are expected to have a great influence in education. This Act makes it clear that all stakeholders in education should accept responsibility. Parental involvement in educational institutions has been in existence for many years. In schooling, parental involvement is a powerful driving force, and that 'parents are a child's first and most continuing educator, and their influence cannot be overestimated' (Department for Children, Schools & Families, 2008). Christenson (2004), views parental involvement as motivated parental attitudes and behaviours intended to influence children's educational well-being. El Nokali, Bachman and Votruba-Drzal (2010) viewed it as a multidimensional and bidirectional construct that has been shown to have connection with social and academic outcomes for children, and traditionally, Epstein (2001), defined parental involvement as engaging parents in school-based activities and events related to their child's education. Furthermore, review of parental involvement across international studies, was measured as participation in parent-teacher conferences or interactions,

participation in school activities or functions, engagement in activities at home, including but not limited to homework, engagement in learners extra-curricular activities, assisting in the selection of learners course, keeping abreast of learners academic progress, reaction to academic grades, imparting parental values, and the level of parental control and autonomy of support in the home environment (Gonzalez-De Hass, 2005).

Drawing from different definitions by different scholars, from my own point of view, parental involvement could be said to be both formal and informal participation of parents in the academic affairs of their children in education in order to uplift quality education. Parental involvement occurs in different ways. Parental involvement could mean a range of activities, from supervisory activities such as monitoring homework completion and time spent reading, to active support activities such as helping a student with Math homework, to activities that involve contact with the school, such as participation in parent teacher associations, contact with teachers, and volunteering in the classroom. For example, Fan (2001) found that learners identified four different dimensions of parental involvement. Parents in the same study identified seven different dimensions of involvement in their child's academic development. In addition, results showed that certain dimensions of parental involvement often influenced other dimensions. For instance, Hill & Taylor (2004) noted that a stronger parent-teacher relationship might impact a greater level of parental supervision while a child is doing homework at home. According to Maphanga (2006), parental involvement consists of various types of participation in education. Parental support in children's schooling can be by attending school events, helping their children to improve their school work, giving encouragement, creating appropriate study time and space, modelling desired behaviour such as reading for pleasure, monitoring homework and actively tutoring their children at home. Narain (2005) asserts that outside the home, parents can serve as advocates for the school. However, a more comprehensive view of parental involvement envisaged in this study goes beyond just parent activities in school settings but in subject and content-oriented participations. This comprehensive view of parental involvement is grounded in the understanding that children's success in Mathematics is influenced by multiple contexts (e.g., home, school, and community) in a dynamic and bidirectional manner (Vukovic, Roberts & Wright, 2013).

Parental involvement may include other activities such as encouraging reading culture in children, encouraging them to do their homework independently, monitoring their

activities within the house and outside the house, and providing coaching services for improving their learning in different subjects. Friedel, Cortino, Turner and Midgley (2010) noted that parental involvement in different ways is a vital means for increasing children's Mathematics achievement. Furthermore, parental involvement is linked with improved intrinsic motivation, reduced dropout rates, increased motivation and less anxiety about school (Tan & Goldberg, 2009, Fan & Williams, 2010, Gonzalez-DeHass, Willems & Holbein, 2005). A more comprehensive view of parental involvement has evolved beyond just parent activities in school settings. More recent research has shown that a much broader range of parental involvement activities can influence positive school outcomes for children (Ginsburg-Block, Manz & McWayne, 2010).

It was indicated in a study carried out by Cai (2003) that parental involvement was a statistically significant predictor of children's mathematical achievement and also promote positive behaviours and emotional development (Cai 2003). Also, Durant's (2011) analysis of Latino families showed that parental involvement was a significant predictor of children's literacy skills above controls and that effective communication with parents may be helpful in increasing both home and school involvement among families, providing a possible avenue through which the parents might develop a collective voice within the school sector. For both parents and educators' underachievement of gifted learners is an area of concern. Although the study of learner's underachievement has a long educational history, it is needful to consider what motivates students to do well. Students are likely to be motivated when they find a task meaningful, with the belief that they have the skills to do it, and find their efforts supported by those around them, especially their parents. It is unfortunate that many gifted students do not view their school experience as meaningful. For example, the school may not be intellectually challenging to them because they have already become proficient at the content. Doing the same thing is irritative to many learners, and once they have programmed themselves for boredom in the class, to embrace new learning experiences become almost impossible when they arise. Other gifted students are not uninterested in school topics no matter the level of challenge, because they have developed a well-defined area of interest that is not matched by what happens in school. Hence they "turn off" their ears to what is taught. While others do not seem to be interested in anything, either because their natural curiosity was dampened in their early school experiences or failed due to lack of self-confidence to do well. Generally, tasks could only be important to student if it please their personal interest, tied

to the child's identity, be applied immediately, or will clearly be useful in the future. There are different ways by which parents can help their children find school meaningful.

Chen (2008) is of the opinion that research overwhelmingly supports that parental involvement enhances academic performance. He stressed that academic performance is enhanced when parents are involved in their children's education. It also said that, the more intensive involved the parents are, the greater the positive impact on academic achievement. Christenson (2006) also stresses on the multiple effects of parental involvement on the child, in other words parental involvement not only enhances academic performance but it also has a positive influence on learners' attitude and behaviour. In addition, a parent's interest and encouragement in a child's education can affect the child's attitude toward school, classroom conduct, self-esteem, absenteeism and motivation. According to Comer (2006), parents' interest and support of their children's school help reinforce students' sense of belonging to school and their identification with teachers and other school personnel. Clark (2003) also notes that parent-initiated contacts with their children's school help strengthen students' identification with teachers. In examining the interaction between parental involvement, teacher's support and students' sense of belonging to school, students whose parents are involved in their school activities are better able to take advantage of the benefits of supportive teachers or school environments for their academic performance.

Therefore, one can emphatically conclude that the effect of parental involvement in academic performance of under-achieving students cannot be overemphasized. Generally, researchers believed that parental involvement can have a positive influence on their children's mathematical performance (Wamala, Kizito & Jjemba, 2013; Mji and Makgato, 2006). Epstein (2009, 2001), views parental involvements as the most powerful influence on a child's education and can have multiple effects on the learners, both academically and behaviourally. According to Guy, Tali & Mordechai (2008), parental involvement primarily influences children's attributes and behaviours, and this in turn affect Mathematics achievement, and Jeynes (2007) suggests that parents who monitor their children's homework and school attendance into junior and senior high school continue to influence their achievement later in life. Sirvani (2007) established that, once parents' become involved, the performance of low-achieving learners improves dramatically.

Despite the benefits all the PI in some part of the world such as the U.S., many schools have failed to see and make use of parents as a readily available resource (Rygus 2012). In agreement with Epstein's observations, Rygus (2012) states that parents are an effective resource for improving student achievement and that parental involvement has a positive effect on the learners, the teachers as well as the schools. Scholars agree that there is need for more research geared toward understanding the students' home settings, how to work with families, and how to improve parental involvement, especially as meaningful parental involvement begins to weaken at the high school level (Epstein 2008; Simons 2001). Both administrators and educators want to know how to work with families in positive ways. Likewise, families are interested in knowing if their schools are providing high-quality education, and more importantly about how to help their children do their best, and how to communicate and support teachers.

Research on how parental involvement behaviours impact students' achievement cannot be underrated because studies in the area of parental involvement shows that it influences positive impact on students' achievement (Fan, Williams, & Wolters, 2012; Epstein, 2008; DePlanty et al., 2007). The outcome of a study conducted on parent, adolescent, and academic achievement, by Bogenschneider & Pallock, (2008) among 440 secondary school students and their parents showed that responsive parental involvement behaviours produced positive outcomes, resulted in higher grade point averages (GPA). Also, the results of a meta-analysis of 52 studies conducted to investigate the impact of parental involvement on adolescent's academic achievement showed that parental involvement was consistent with overall improvement in grades in the classroom and on standardized tests (Jeynes 2007). According to Henderson and Mapp (2002) state that regardless of economic status of involved parents, or their level of education, their children tends to experience school success and that through systematic engagement, these students earn higher scores, attend school regularly, develop good behaviours, graduate, and continue to higher education. In a recent review of intervention, parental involvement activities, such as, effective communication between the home and school, providing homebased support for learning, and providing home-based celebrations for accomplishments, were identified as essential to supporting positive Mathematics outcomes in children (Ginsburg-Block et al., 2010).

2.17 Family Structure and Learners' Mathematics achievement

Family structure is often overlooked variable that affects both parent involvement and achievement (Jeynes, 2005a, 2010). Strickland (2004) submits that, contrary to popular belief, learning does not just begin in kindergarten or first grade. At home learning begins through interaction with one's family, it starts even before children enter their school years, when they first see and remember their parents reading and writing at the home. Based on such bold statements regarding family structure, parent education, community support and poverty level, the student's family structure would seem likely to impact overall attendance and academic achievement (Evans, 2005). On the other hand, Ajila & Olutola (2007) noted that this position may not be true in every situation as there are some children in single parent families that perform better academically than children from two parent families, and that such may be attributed to other factors inherent in the personality of such children. However, Grolnick, Friendly, and Bellas (2009), state that single-parent families, working parents, and parents with more children are likely to meet with more hindrances to becoming involved in their children's learning. However, he added that parents will work to overcome those hindrances and positively impact their children's achievement through different types of involvement. The outcome of the study conducted by (Spera, 2006), asserts that parents are socializing role models for their children, using 184 adolescents on parents' perceptions and values and their impact on student achievement, the study results supported the belief that parental perception and positive values, goals, and beliefs of education have an impact on students' achievement. Parental models influence the behaviours, thoughts, and actions of children.

Today, children are growing up in families with different structures. It can be observed that more than ever, there have been increased number of divorces, remarriage, cohabitation and other such events which have refashioned home life. According to Hong Kong Census and Statistics Department (2013), for example, the rise of divorce rate was said to have increased than the number of children living with a single parent, and that from 2001 to 2011 the annual growth rate of single parents was put at 2.8% in Hong Kong. Recently, in Hong Kong, there are 81,680 single parents who have children under age 18, and that children living with a single parent are children of divorce. Moreover, the study stated that the number of non-traditional families, including single-parent families and step-families, in America has been steadily increasing and estimated that nothing less than half of all children today will spend some time in a single-parent family before the age of 18. Single-/step parenting is viewed as one risk factor that can lead to

unsuccessful adolescent academic outcomes. Research has also identified possible educational problems suffered by children from single/step-parent homes and this has on the other hand affected the general learning progress and academic development of learners (Amato, 2005). For example, study by Sun and Li (2011) examined data from more than 8,000 children to compare academic growth from kindergarten to fifth grade among three types of traditional families and three alternative forms. There are a number of factors which were evaluated in the study. These included structure, transitions, family financial and social resources, and child outcomes. The study found that children in non-disrupted single-parent and disrupted two biological-parent families saw slower academic growth relative to both non-disrupted two-biological parent and non-disrupted stepfamilies.

In today's family setting, what was once considered a traditional two-parent family consisting of the child's biological father and mother is no longer common. The potential for academic success is stifled by living in a disruptive home prior to foster placement, kinship placement, or a single parent home. According to Nowak-Fabrykowski and Piver (2008) foster children show feelings of insecurity and the need for attachment. Behaviour ranges from challenging to accommodating when dealing with foster parents or educators. With foster children, there are challenges of emotional struggles that most children never face, yet they are expected to attend school daily and perform to high standards. Kinship is a common term used to identify members of a family and their role to the wellbeing of an individual. In regards to the student of a disruptive family, it represents those individuals who take care of the child instead of their biological parents. According to the United States Department of Health and Human Services (2014) the number of children in kinship care continues to grow each year, and grandparents represent the majority of kinship care. Children in kinship care with grandparents are more likely to repeat a grade and be placed in special education than children being raised in two-parent homes even though the children have similar academic potential. Kinship parents receive less training and support than foster parents allowing for the possibility of being overwhelmed. Lieras (2008) wrote that children raised by grandparents' experience fewer behaviour problems than children in single parent families.

However, kinship children are not performing to the standard of children raised in two-parent homes. More behaviour issues, problems completing homework assignments, and weaker scores occur in kinship care than children in the two parent family, and that family

structure is linked to behaviour and academic problems in children. The study added that stress indicators such as socio-economic status, employment, and personal circumstances affect the home environment of single mothers, while higher education and gratifying employment promote a more stable environment for children. With the destruction of the American family, children are at-risk for academic failure not only because of school factors but home factors (Lleras 2008). Monserud and Elder (2011), note that a lonely parent that have no other adult in the house are likely to have less access to emotional support, may experience role overload, and have less time and energy to devote to their children, which can result in less involved parenting. The study added that consistent and supportive parenting results in better outcomes for children and that the presence of two parents in a household is essential (Monserud & Elder, 2011). Study further hold that fathers and mothers contribute differently to child development because of difference in gender roles. For example, it is assumed that men tend to foster the development of children's cognitive skills, while women more effectively foster the development of interpersonal skills (DeBell, 2008).

It implies therefore that, the absence of one parent creates a vacuum. In such cases then, the single parent may not be able to perform both gender roles and, in turn, cannot make the same contributions to child development and instilling values that two parents are able to (DeBell, 2008). Hence, another study concludes that consistent and supportive parenting results in better outcomes for children and that the presence and the combination of the two parents in a household is vital (Monserud & Elder, 2011). However, research examines the gap in Mathematics and Science achievement of third and fourth-graders who live with a single parent versus those who live with two parents in 11 countries. United States and New Zealand were ranked the least among the countries compared in terms of equality of achievement between children of single-parent families and children of two-parent homes. The multilevel analysis showed that single parenthood was less harmful when family policies equalize resources between single and two-parent families. From these outcomes, it shows that belonging to a single parent family does not mean the person is academically condemned since certain policy implemented could turn fortunes. This discovery supports that of Uwaifo (2008).

Albeit, family setting and background plays a vital role in strengthening or devastating a learner's academic performance, peaceful and favourable environment within the home has a significant effect on the student's academic performance. According to Osborne

and McLanahan (2007), single parents may not have partners living in their homes, while many keep and change romantic relationships with partners and that a high occurrence of dating transitions has a negative effect on maternal parenting, which in turn is likely to be adversely linked with child results (Beck et al., 2010). As a result of this, the educational disadvantages in a seemingly non-disrupted single-parent household may be partially attributable to instability in the residential parent's dating relationships. On the other hand, studies have indicated that students from two parent families are more satisfied with life generally and perform better in their academic pursuits than students from single parents (Mozhgan & Mohammadreza, 2011). This might be due to the fact that children from two parent families experience necessary care, attention, warmth, father- and mother-figure attachment and emotional stability that are common with two parent homes, while, children from single parent families may suffer distraction, emotional challenges, disciplinary problems and lack as the single parent may find it difficult to provide for the socio-economic essentials of the child/children alone (Uwaifo, 2008; Ushie, Emeka, Ononga & Owolabi, 2012).

Furthermore, research showed that household economic conditions and parental involvement are important factors associated with differences in learners' educational achievements by family structure, specifically, that single parenthood is related to less parental involvement (Hampden & Thompson, 2013). In addition, Osunloye, (2008), views family background as the foundation for children's development, as such family background in terms of family structure, size, socioeconomic status and educational background play important role in learners' academic achievement and social integration. However, reviewed literature indicated that there is an awareness of the significance of the home environment or family on siblings or children academic achievement. Another study stated that, children living with single parent families (whether due to divorce, parent never marrying, or widowing) have lower achievement than children from two parent homes but children who have parents that stay together have the best achievement outcomes (Jeynes 2005a). In addition, children from two parent households have better Math and Science achievement than children from single parent households, even if the two parent family is blended (Chiu 2007; Chiu & Xihua, 2008). \

Parents play a very important role in the lives of their children. Not only do they provide guidance and support, but they also greatly influence the outcomes of their children. Parents differ in a number of aspects. In particular, parents' relationship plays an

important role in the development of their children. Over the years, research indicated that children's school results from preschool to college are affected by family structure (Schneider, Atteberry, & Owens, 2005). In school performance, some variations could be explained, in part, by the variances in family resources such as time and money, family dynamics, and parental characteristics that are connected with the different family forms. These are mediating factors or mechanisms through which family structure affects schooling outcomes. Family structure may also exert a direct influence independent of mediating factors. Family structure's total effect may consist of one or more mediating influences or a combination of both direct and mediating influence, depending on the outcome (Glenn & Sylvester, 2006).

Bronfenbrenner's (1974) analysis and integration of results from empirical investigations conducted over many decades led to his exposition and supported the idea that family is important to children's development. According to Bronfenbrenner, the family is the one structure that can foster and sustain the child's ability to grow academically, mentally, socially, and emotionally. The degree of success seen by the implementation of any other intervention would be limited and temporary if family involvement were not present (Bronfenbrenner, 1974). According to Jeynes (2005), family structure and the extent to which parents discuss school issues and attend school functions have been associated with higher adolescent academic achievement. Some of what children experienced in early-childhood affects their eventual school readiness. These early-childhood effects are possibly different by family structure. For example, it was said that, children from cohabiting mothers tended to display more aggression, withdrawal, and anxiety or depressive behaviour than children born to married mothers and that aggressive and withdrawn behaviours often were attributed to income differences between the mothers (Osborne, McLanahan, & Brooks-Gun, 2004). Again, studies showed that young children improve their literacy development and that toddlers and preschool-age children in married-parent families are read to, more often than peers in non-intact families. On a study of 11,500 kindergartners living with two parents or a parent results, accounting for parental education and income, children living with married parents averaged higher reading achievement test scores than peers living in cohabiting or step-parent families (Artis, 2007).

According to Cavanagh, Schiller, and Riegle-Crumb (2006) the family structure and its importance to academic achievement has been reported to be the single most important

factor in determining the success in a child's academic career. The first graders whose mothers were married when they were born tend to be less disruptive in behaviour with peers and teachers than those whose mothers were single or cohabiting at the time they were born. Hofferth (2006), states that age 3 to 12 children who live in intact families have higher average Math scores than peers whose mothers live in cohabiting relationships. Also age 7 to 10 children who live in two-parent family settings are likely to score higher on reading tests than peers who have lived in other family structures (Park, 2007). To a large extent, family structure of a school's student population appears to be associated to the individual Science and Mathematics scores of eighth graders. Ninth graders whose mothers were married when they were born tend to more complete an algebra course than their peers whose mothers were single when they were born (Cavanagh et al., 2006).

Parental involvement level varies by family structure, and the family context influences relationship between parental involvement and educational outcomes as well (Nord & West, 2001). Research reported less parental involvement in the school work, supervision, and parental educational expectations of high school learners from single or step-parent families compared to high school learners from intact families, which in turn affected school outcomes. The home environments in which children are brought up significantly affect schooling outcomes. For example, in a study of elementary learners of middle-class families, whose parents provided Mathematics and science learning materials for, showed greater inclination toward and interest in Math and Science activities (Jacobs & Bleeker, 2004). Parental expectations of achievement, is of great significance to learners, particularly adolescents' perceptions of such expectations, it tends to boost their actual motivation and ability in school (Marchant, Paulson, & Rothlisberg, 2001).

As indicated by study over the last years, there is a strong link between family structure, parental involvement, and children's educational outcomes, with enduring influences from early childhood to young adulthood. Family policy overlaps critically with education policy. Hence, promoting the intact family structure tends to improve individual student outcomes as well as the American education system as a whole. This implies that policies that encourage healthy marriage and stable family formation could promote child well-being, including school outcomes, both at the individual and aggregate levels (United States Department of Health and Human Services, 2014). In a study conducted to investigate the effects of family type on secondary school learners' academic performance, three

hundred (Male = 156; Female = 144) senior secondary school students were randomly chosen as the sample of the study. Proportionate stratified random sampling technique was adopted. The demographic questionnaire was used to collect respondents' bio -data while their promotion examination results were used as a measure of academic performance. The outcomes indicated that family type influenced academic performance of high school learner significantly (Akomolafe & Olorunfemi-Olabisi, 2011). These findings suggest that there is need to provide adequate training to parents on how best they can assist their children to attain maximum success regardless of their type of family. This study contributes greatly to current study especially in understanding the family types and how they affect learning. The only limitation is that it was carried out in Nigeria and hence there is need for this study to be carried out in South African context.

2.17.1 Two Parent Family

This is a type of family where both biological parents and their children are present and lives together in the home. It is described as the traditional kind of family that is considered to be ideal. More importantly it is able to raise children, and highly respected in the society (Michelle, 2012). The togetherness of a family may not necessarily mean that it is void of all manners of conflicts and challenges of life, neither does it suggest all round perfection in its setting, nor that the children are well catered for, but it is a type of family that is likely to offer more social and emotional supports to their children as they would be opened and have access to both father- and mother-figures that are for effective socio-psychological developments. In the view of Peter (2016), two-parent families are able to give more time, affection, and supervision to their children than single parents, as the two parents can relieve one another when they find that parenting is becoming difficult. The training as well as development of the children is high as both parents are available (Fagan & Churchill, 2012).

In the view of Amato (2005), children in two-parent family enjoy more parental support financially, socially and physically from both parents since both parents have more access to employment, income and savings than single parents do. In other words, children brought up in families with two continuously married parents are likely to perform better on cognitive, emotional, and behavioural outcomes compared to children raised in other types of family (Amato, 2005). In support of the above view, children receive strength and stability from the two parents' structure and generally have more opportunities due to financial ease of two parents and they tend to fare better on a number of cognitive, emotional and behavioural needs (Ella, Odok & Ella, 2015). Furthermore, Jeynes (2005),

viewed that children staying with both parents staying together have the best achievement outcomes, and children from two parent families have better Math and Science achievement than children from single parent families, even if the two parent family is blended (Chiu 2007; Chiu and Xihua 2008). Two primary factors of economic resources and parental involvement are suggested to be responsible for better performance disparity between two and single parent's children (Hampden-Thompson, 2009).

2.17.2 Single-Parent Family

Studies describe a single parent family as one that is composed only of father or mother due to different reasons such as death of a parent, divorce of married parents, separation, dissertation and unplanned pregnancy, especially among adolescents (Tenibiaje, 2005; Eweniyi, 2005), and this could also be a deliberate choice. According to Billings (2012), children from such homes become delinquent because they are most often denied security, protection and love that should come from both parents and these affect their academic activities negatively. This view was supported by Stone (2012) who stated that children from single parents are more likely to show, to a large extent, the effect of under-nourishment, illness, insufficient rest as well as negative attitude towards school, which manifest in infancy, which is a factor that can affect achievement and performance negatively. Single parent families have on the average, lower income than two parent families and are therefore, more constrained in ensuring adequate financial resources to meet their children's learning needs. A single parent bears virtually all of the daily and regular responsibilities of bringing up a child or children. Hence, according to (OECD/UNESCO, 2003), it is usually more difficult for single parents to provide and maintain a supportive learning environment for their children since they must cope with the double responsibility of work and child rearing. According to Pong, Dronkers and Hampden-Thompson (2003) multilevel analysis carried out on the gap in Math and Science achievement of third and fourth-graders who live with a single parent versus those who live with two parents in 11 countries showed that single parenthood was less damaging when there are same and equal resources in family policies for both single and two-parent families. In addition, the single- and two-parent achievement gap is greater in countries where single-parent families are more prevalent. Hence, being a single parent family member does not mean the person cannot achieve academically since certain policy implemented could turn fortunes.

2.17.3 Implications of Family Structure on Learners' Academic Achievement

Generally, it is believed that inside and outside of school environment where the child grows has a great influence on the academic achievement of the learners. According to the observation of the Programme International Student Assessment (2000), the quality of parents and the structure of the home of a child is a pointer to the quality and regularity of the satisfaction and provision of a child's functional survival and academic needs. Sheldon and Epstein (2005) viewed overall level of support from home as one of the reasons for students in the United States struggle in Mathematics and this is a primary consideration in this review. Therefore, one way to attempt to better understand and support learners at home and the possible overall student's ability to learn in Math would be to consider the family structure. As the family unit disintegrates, so do these factors and the potential for achievement. Hence the need for schools and other stakeholders to consider the family structure, and subsequent home life of the child and ultimately the learning potential in the school. Kim (2011) concluded that children experience an academic setback, specifically in Mathematics scores, as a result of divorce. However, this effect did not hold true for reading scores in the same report. In another study, (Hixson, 2012) found no significant association between family structure, absenteeism, and reading achievement.

Furthermore, Hixson (2012) suggested that there might be a statistical effect of family structure and attendance on Mathematics achievement, as well as potentially in Science and Social studies and suggested that future research should consider family structure and attendance specific to Mathematics achievement; since Mathematics concepts often build on previously acquired knowledge. This might imply that Mathematics would be much more negatively affected by both family structure and attendance than reading. Therefore, a pattern of achievement that schools should consider is the family structure and subsequent home life of the child and, ultimately, the learning potential in the school. Bronfenbrenner (1974) states that, the family is the one structure that can foster and sustain the child's ability to grow academically, mentally, socially, and emotionally. The degree of success seen by the implementation of any other intervention would be limited and temporary if family involvement were not present. According to Jeynes (2007), family structure and how often parents communicate on school issues and attend school functions have been associated with higher adolescent academic achievement. Studies explain that formation of new marriages and dissolution of present ones also bring about changes in family resources, rules, and parenting practices (Beck, Cooper, & McLanahan,

2010; Demo & Fine, 2010). This may negatively affect children by further increasing their stress level related to adjustments to new family settings this is because multiple transitions accrue and prolong children's anxieties. Moreover, they have the potential to deteriorate and multiply their impact on children over time (Demo & Fine, 2010). Furthermore, Lee et al (2007) states that changes in family demographics have a direct impact on the life of children involved and can be mostly disruptive. In his view, Heard (2007) says transitions may be stressful due to changes in family statuses and roles, family routines, differing expectations, and altered relationships with parents and one important area of a child's life that is impacted by this is education.

2.17.3 Implications of Family Structure on Learners' Academic Achievement

Scholars have suggested that the breakdown of the family unit has a significant influence on the lives of children and has showed itself in many different areas of the child's life including emotionally, mentally, psychologically, and in overall resilience. Similarly, as adults, children cope with conflict; they internalize the conflict, which in turn can produce emotional and behaviour issues that often manifest themselves in the classroom. So, the child's ability to process these emotions has a pronounced effect on their academic efforts and behaviour both in and out of school. Outside divorce, there are many other circumstances that result in a broken or fractured family unit that could have an equally complex negative correlation for student academic achievement. Whether these situations included the death of a parent, the inability for parents to raise their children so the responsibility falls on other family members, or the student is removed from the home as a ward of the state, children are impacted and also their academics.

According to Schneider, Atteberry, & Owens (2005), children's school results from preschool to college is affected by family structure over the years. To support this view, Cavanagh, Schiller, and Riegle-Crumb (2006) says that the family structure and its importance to academic achievement has been reported to be the single most important factor in determining the success in a child's academic career. Sun & Li (2011) examined data from more than 8,000 children to compare academic growth from kindergarten to fifth grade among three types of traditional families and three alternative forms. Among others, the study evaluated factors such as structure, transitions, family financial and social resources, and child outcomes. It was found that children in non-disrupted single-parent and disrupted two biological-parent families, there is slower academic growth relative to both non-disrupted two biological-parent and non-disrupted stepfamilies.

Hofferth (2006) states that age 3 to 12, children who live in intact families have higher average Math scores than peers whose mothers live in cohabiting relationships, while another study state that age 7 to 10 children who live in two-parent family settings are likely to score higher on reading tests than peers who have lived in other family structures (Fomby & Cherlin, 2007)

Furthermore, it may be more challenging for single parents to provide and maintain a conducive and supportive learning environment for their children, because they have to cope with the double responsibility of work and childrearing (OECD/UNESCO, 2003). Such families according to Children's Defence Fund (1994) are faced with the challenges of diminished financial resources, assumptions of new roles and responsibilities, establishment of new patterns in intra-familial interaction and reorganisation of routines and schedules. It is because when the single parent is overburdened by responsibilities and by their own emotional reaction to their situation, they often become irritable, impatient and insensitive to their children's needs which may affect children performance in school (Demo & Fine, 2010).

2.18 Parental Home Support and Learners' Mathematics Academic achievement

Literatures has shown that numerous forms of home-based involvement specifically, (e.g. parent–child communication, encouragement for learning in mathematics, and parental expectations and aspirations for their children are said to be linked to increased Mathematics achievement in elementary school children (e.g. Nye et al., 2007, Jeynes, 2005). The fact that children's success in school is influenced by multiple contexts (e.g., home, school, and community) in a dynamic and bidirectional manner formed the basis for this broad view of parental involvement (Bronfenbrenner & Morris, 1998). The inclusion of parental activities in school, home, and community contexts in parent involvement gives room for more opportunities for parents to assist their children's academic achievement in a variety of roles.

There is the need to discover more contemporary parent involvement construct that includes school and home-based activities as well as expectations about learning. For example, in a recent review of intervention, studies identified specific parental involvement activities, like increasing positive communication between the home and school, providing home-based support for learning, and providing home-based

celebrations for accomplishments, as essential to supporting positive Mathematics outcomes in children (Ginsburg-Block et al., 2010). It is important for them to offer support despite the fact that some of them are already eighteen years old. Their offering of support is built on a foundation which is having a good relationship with their children and being there for them. Furthermore, all the parents have aspirations for their children and they want them to succeed at school and in life. Therefore, they have to support them to attain these aspirations. Encouraging, positive support from parents in the home is associated with higher academic success (Swanson, Valiente, Lemery-Chalfant, & O'Brien 2011, Melby, Conger, Fang, Wickrama, & Conger, 2008).

However, Azmitia et al. (2008) explain that, support could be provided through the expression of emotional concern and conversations about the child's well-being and suggested that parents provide general support in a number of ways, including being caring and encouraging toward their children. In a study that investigate the supportive parent-child relationship relative to ratings of middle school learners' school engagement, school competence, and standardized reading scores found a significant positive relationship between supportive relationships and the child's school achievement and supports the finding that children who have a generally supportive relationship with their parents tend to perform better in school during adolescence. Other support expected from parents includes: attending activities their children partake in and parents-teacher meetings, communicating with the school or respective teachers. At home the parents offer their support by creating an environment that is conducive to their children to succeed by giving their children time to do schoolwork, by being involved in learning problems and knowing that there is a project, its due date and what is needed. Furthermore, parents could give emotional support, being available to talk, know what the child likes, not being angry and punish him/her when he/she doesn't do well or fails but rather gives support, have time with him and know his schedule and where he is lacking.

2.18.1 Parental educational expectations

Research defines parental expectation as parents' judgement and prediction about a child's future achievement relative to a goal (Yamamoto & Holloway, 2010). In other words, it is the hope that parents have for their children to successfully progress in academics. The study further state that, parents holding high expectations for their children will likely motivate their children and initiate steps in an effort to ensure higher grades, higher scores on standardized tests, and successful completion of their academic

tenure. It therefore means that parents' high expectation of their child to perform well academically has several implications for the child's actual achievement. Outcome of a study conducted using an adolescent sample, showed significant associations between parental expectations and academic achievement (Benner & Mistry, 2007). Similarly, based on a longitudinal study over 3 years, Mistry, White, Benner, & Huynh (2009) report that higher parental expectations were associated with better academic achievement for adolescents over period of time.

On the educational aspects, literature affirms that parental educational support set the context of early socialization as it is able to assist parenting behaviours to achieve a specific goal. Harkness et al, (2010), stated that parental expectations would reflect "on the child's realistic expectation", that is what the individual thinks will happen (Gorard et al., 2012). In addition to Mathematics instructional support, parental support in their children's social, emotional, and cognitive development is important and highly needed too. Researchers have found a positive association between parental expectation and students' academic achievement in general. The study added that early parental involvement and upholding positive expectations for their children's long term academic attainment can go a long way to help children succeed academically. Furthermore, when parents communicated the expectation of their student performing well at school and then embark on this message with actions of care, concern, and support, studies show an overall positive correlation to improved and sustained academic achievement (Fan, 2001). Likewise, Hayes (2011) in his study on parental involvement and achievement outcomes in African-American adolescents concluded that, of the three broad constructs of home-based parental involvement, school-based parental involvement, and parents' achievement value, the most important for academic success were parents' expectations and aspirations for their children's success. According to Cross et al., (2009), parents can increase the potential development of their children mathematical knowledge and skills by setting high expectations and providing encouraging environments.

Parental expectations have been demonstrated to have a positive relationship with educational aspirations (Benner & Mistry 2007). In addition, parental expectations may act as a moderating factor between students' academic abilities and their educational aspirations and attainment (Marjoribanks 2003). Children model the behaviours and expectations given to them by their parents by acting similarly. In other words, if parents exhibited a strong work ethic and drive to succeed, then the child was more prone to do

the same. When parents communicated the expectation of their student performing well at school and then backed this message up with actions of care, concern, and support, studies showed an overall positive correlation to improved and sustained academic achievement. Setting high expectations and providing a learning conducive environment by parents could possibly boost the development of their children mathematical understanding and abilities. What learners go through at home is linked to their Mathematics intrinsic motivation at early age and later improvement through high school (Gottfried, Gottfried, & Oliver, 2009). Furthermore, the expectations of parents may influence not only academic achievement and aspirations in their children, but also the future expectations of the parents themselves. For example, studies have found higher education expectation of Asian parents to be responsible for Asian American learners more successful in math (Mistry et al. 2009).

Furthermore, Park, Byun and Kim (2011) demonstrate a Korean model in improving children's Math learning in which the study examined the impact of private tutoring on children's Math improvement. The study found a significant positive relationship between the effort of parents in assisting their children selection of tutoring companies and Math scores. The rationale behind this is to enable Korean parents to help their children solve their specific problems regarding Math learning by engaging in finding suitable private tutoring organisations and then monitor their children's progress after attending such tutoring programs. This Korean model is in agreement with the effort and expectation perception of Asian parents mentioned above. Engaging in searching for private tutoring for children is another way of showing parent's further efforts and high expectations towards the academic achievement of their children. On the other hand, parents whose academic expectations of their children are low mostly tend to be less involved in their children's learning. It was reported that parental expectations and the parents' function as role models are essential mediating mechanisms (Gustafsson, Kenttä & Hassmén, 2011) to account for the effects of parental education on pupil's achievement. However, they added that it is reasonable to expect that the number of books in the home can play an important part in such mediating mechanisms. Asian-American parents, for example, who had higher expectations, were found to be more actively involved with students' home and schooling processes and vice versa (Hong & Ho 2005).

Accordingly, Chinese parents who have higher expectations of their children's academic achievement consider effort as an important achievement attribute and most always

emphasize this attribute to their children in the course of their daily interaction. Through early parental involvement and holding positive expectations for their children's long term academic attainment, parents can help their children to succeed academically. Even when controlling for other variables related to achievement and parent expectations, such as family SES, (Räty & Kasanen 2010), early home-based involvement, race/ethnicity, earlier parent expectations and prior achievement (Froiland et al. 2013a; Zhang et al. 2011), parent expectations for children's long-term educational attainment have a significant positive effect on the development of academic achievement among adolescents. Similarly, high positive expectations of parents for their children also directly promote academic achievement by engaging higher levels of home-based involvement when their children are still young (Froiland et al. 2013a). Correspondingly, it was found that parent expectations for their middle school students' long term educational attainment directly predicted grades (Bandura et al. 2001). When children expect their parents to know about their performance, those who believe that their parents think highly of them may try harder in order to live up to their parents' expectations, and they may actually do better. By contrast, children who believe that their parents have low expectations for them may actually perform more poorly. They may give up on impressing their parents and may not bother to try again. While parents' behaviours are found to be of great importance to their children attitudes towards Mathematics (Hyde, Quest, Alibali, Knuth, & Romberg, 2006), the relationships between parents' academic reinforcement and student's Mathematics achievement was not found a significant. However, the study found a significant relationship between the parents' mathematical values and students' Mathematics achievement (Hong, Yoo, & Wu, 2010).

Furthermore, some study has indicated the relationship between parental beliefs and attitudes, including the expectations of parents, target orientations, and ability beliefs' children espouse (Friedel, Cortina, Turner, & Midgley, 2007). Parents could transfer this importance to their children's Mathematics success; thus they have more positive attitudes towards Mathematics, if they thought Mathematics is important. Hornby and Lafaele (2011) explained that in the study of parental involvement, parents' view of their role in their children's education, their attitude and their belief that parents have ability to help their children succeed at school are critical aspects in children's Mathematics education. In addition, parents view about their children's intelligence as well as how they learn and develop their abilities are also critical. However, most parents thought that the Mathematics skill of their children is not as important as their other skills of their

academics. Parental assistance to improve their children's skills in Mathematics leads to an increase in their children Mathematics test scores (Canavagh, 2009).

According to Barbarin et al. (2008), the time parents spent on literacy skills of their children was rated at 50%, and spent only 3.5% on their numeracy skills. The finding of this survey showed that mothers spent more time developing their children's language usage, while lesser time is devoted to building of their children's mathematical skills. Nonetheless, there are measures that parents can put in place in order to lessen the gap between Low-SES and High-SES background of student's Mathematics achievement. This includes the need to become teachers within their homes. They can influence their children by being their original teachers of intrinsic motivation, morals, and discipline. Also, they can maximize the teachable moments that occur in abundance in the home (Padavick 2009: 97). Furthermore, parents can support their children's Mathematics success by their positive encouragement and children who received high levels of encouragement showed more persistence and effort when they faced difficult mathematical tasks. In addition, parents can influence self-concept, beliefs, and goals by telling their children that they are smart and that they should go to college, which will influence their child's career decisions indirectly (Cinamon & Dan, 2010). The parents can directly support the pursuit of a STEM career by setting high expectations for doing well in Mathematics courses and emphasising the significance and the need for success in Mathematics. Although studies submit that the direct behaviours and actions of parents might be more influential than indirect approaches, there is general consensus that parents have at least some influence over the choice of career of their children. Parents' effort to understand this relationship further is part of a comprehensive approach to increase parents' level of involvement. It was said that the higher levels of encouragement children received from their parents, the more positive attitudes the children displayed in their Mathematics courses.

On the other hand, the lower level of encouragement children received from their parents, results in higher mathematical anxiety for these children. Large number of parents that tried to encourage their children in Mathematics either did not know how to involve or did not know why their involvement was important. However, students whose parents were aware, knowledgeable, encouraging, and involved are likely to gain higher academic achievement than students whose parents were not. Research submits that parents can make Mathematics more interesting and joyful for their children by practicing real world

informal Mathematics that schools usually do not provide (Cavanagh, 2007). The differences between parents' backgrounds notwithstanding, it is generally believed that, to be successful in Mathematics was when parents showed high expectations for the school achievement of their children. Research shows that parents' expectations were positively associated with growth in student achievement in reading, Mathematics, Science, and Social studies from grade 8 through grade 12, even after statistically controlling the socio-economic status. The study further concluded that parental expectations are greater among parents with higher social economic status and higher levels of educational achievement (Fan, 2001).

Parents often tend to have different expectations from one child to another. There may be a hundred of reasons why parents do not hold each child within the home to the same standard, but research has identified one factor which plays a large role in those expectations; gender (Rudasill & Callahan, 2014). Although it is unintentional, and there is no intended bias, society has its own established gender roles and expectations that we subconsciously accept and promote. From the toddler stage throughout a child's development, many parents train their children based on some traditional roles. Often we see parents of small children teaching the boys hands on activities, while teaching girls how to read and how to develop social graces (intellectually stimulating activities) (Rudasill & Callahan, 2014). As a result, these early activities ultimately tend to have impact on future academic achievement (Rudasill & Callahan, 2014). A research conducted on the effects of parental involvement on grade 8 achievement, found out that children's self-perception about their Mathematics competency are as a result of their parents' and teachers' perceptions of the children's competence (Bhanot and Jovanovic, 2009). In another longitudinal study conducted between 1987 and 2000 on how parents' values and attitudes affect children's Mathematics performance and later interest, and how these attitudes vary with the child's gender, using a data set of more than 800 children and their parents, parental attitudes were key determinants of children's Mathematics performance and later interests.

It was also found that girls' interest in Mathematics decreases as their fathers' gender stereotypes increase, whereas the contrary was true for boys. The study further reported further that, parents created a more Mathematics-supportive environment for boys than girls, including the purchase of toys and time spent on activities. Thus, parents play a significant role in the development of their children's interests, values, and goals. The

family unit serves as the foundation from which a child's view of gender roles is formed. So it is imperative that parents take extra precaution to avoid promoting gender stereotypes. We often see that boys perform differently than girls in different subjects (Rudasill & Callahan, 2014). Ordinarily, subconscious parental behaviours have led to these differences. For instance, it may be common practice for a father to help children with Science and Math homework while the mother helps with English and Social studies, which may promote a gender bias within the children (Rudasill & Callahan, 2014). It is imperative that parents allow their children to develop in non-gender stereotypical ways, academically. That will allow students to perform at higher rates across the board and will promote goal setting, which is not limited. Parents must realize that their values, views and actions influence their children's self-image, and must take the necessary steps to avoid projecting limitations on their children just because of their gender.

On the other hand, few studies found that, generally, parental involvement tends to favour girls more in their education when compared to that of the boys. Cultural stereotypes (e.g. Mathematics is a male subject) have been shown to influence parents' perceptions of the abilities of their children (Gunderson et al. 2012; Jacobs & Bleeker 2004). For example, few studies noted that some parents are more involved in their daughters' Mathematics and Science activities than they do in their sons' activities, resulting in an increased interest in children's Mathematics and Science activities (Jacobs & Bleeker, 2004; Hoover-Dempsey & Sandler, 1995). Furthermore, Gunderson et al. (2012) argues that girls are rarely encouraged to partake in Mathematics/Science related activities like boys and parents perceive boys as more competent in Mathematics than girls as well as seeing it Mathematics as a male subject.

Another study revealed that girls value science more when their parents believed that science was important for them but this relationship was not disconnected in the case of boys (Bhanot & Jovanovic, 2009). In other studies, it was said that even when there is lack of proof of achievement, differences between males and females in Mathematics, parents' perceptions of their children's Mathematics achievement were influenced by the child's gender (Rudasill & Callahan, 2014), thereby the parents of boys believing that their children have higher Mathematics abilities than the parents of girls. Children's self-concept can be influenced by gender- stereotyping of children's Mathematics abilities, because consciously or unconsciously, they in turn affect gender stereotypes (Gunderson

et al. 2012). It therefore showed that, gender-role stereotyping and societal influence (e.g. parents and teacher) have a significant influence on learners' Mathematics motivation.

2.18.2 Parent and child Communication

More recent conceptualisations of parental involvement include activities and engagement between children and their parents at home as well as in school such as helping them with homework, supervision, and discussion about school activities (Pomerantz, Moorman, & Litwack, 2007; Jeynes, 2005). Aston and McLanahan, (1991) and Sui-Chu & Willms (1996) studies, stressed that regular conversations between parents and their children have resulted in academic growth in the children. Basically, what parents communicated to their children as important in school was what students placed an emphasis upon. When parents became involved in their child's education and positively engaged the learner about what they were learning with support for the content, teacher, and school, the student perceived achievement as important and therefore developed an attitude of achievement.

Numerous studies are available on how parents are involved in the education of their children, particularly in Mathematics learning has shown that home-based involvement activities such as parental encouragement in child's learning, and communication between parent and child were all linked with higher achievement in Mathematics (Fan & Chen, 2001; Jeynes, 2005). Other studies further stressed on how vital the children's interactions with the more experienced members of the culture (predominantly family members) is important, and described family as having the major role in providing responsive learning contexts that enable their children to increasingly take more and more initiative in their own learning, work cooperatively on shared tasks with others, and provide responsive feedback (Smith & May, 2006). On the contrary, other studies such as Patall, Cooper, and Robinson (2008), Coleman and McNeese (2009) show no relationship and even affirm negative associations.

2.18.3 Parental Encouragement

Parental encouragement is another area of parental support for children's academic achievement that affects activities related to school tasks and learning. According to Hill & Chao (2009), the use of this mechanism could be particularly effective with an adolescent child, because parents are able to offer support and encouragement with minimal intrusion. In the same vein, Beckert et al. (2008) stated that, youths are more

likely to make positive choices and make persistent efforts when adults around them encourage them to become integral part of the community. When Parents' encourage their children's' intrinsic motivation it contributes increasing children's achievement. In a longitudinal study of students from preschool to age 17 conducted by Marcoulides, Gottfried and Oliver (2009) found that motivation of children by parents is of immense benefits to students' Mathematics achievement from elementary through high school. In another related study that was conducted to investigate the relationships among Mathematics-specific intrinsically focused parental motivational practices, students' growth in Mathematics from seventh through twelfth grade, and students' persistence in Science, Technology, Engineering, and Mathematics (STEM) careers.

The study was a quantitative in approach that examined the different types of parental involvement behaviours such as providing children with rewards for good grades and praising their efforts instead of ability and how these behaviours influence students' achievement. Data was collected from randomly selected participants in the nation's Longitudinal Study of American Youth (LSAY), which included 60 students from each of the 52 middle and high schools studied. Two cohorts of students in seventh and tenth grades, their parents, their teachers, and principals responded to attitudinal survey questions and telephone interviews. As part of the data for the study, student participants also completed Mathematics achievement tests every fall for 4 years. Follow-up data were collected after 4 years. Data were analysed using latent growth curve modelling approach to determine the relationships between the dependent variables: students' Mathematics achievement and students' persistence in STEM careers and the independent variables: parents' intrinsically and extrinsically motivational practices. The study found significant positive relationships between parents' intrinsically focused behaviours such as encouragement, high expectations, and valuing Mathematics and students' Mathematics achievement from seventh grade through twelfth grade, and students' persistence in STEM careers (Harackiewicz, Rozek, Hulleman, & Hyde, 2012; Ing 2013).

Furthermore, Studies have shown that children who were encouraged by their parents to do well tended to perform better in school (Chen & Gregory, 2009). In line with the above view of points, Epstein (2008) and Hoover-Dempsey & Sandler (2005) posited that the home environment influences a child's or adolescent's educational outcomes. An involved parent maintains a structured home environment, monitoring the child's progress

and school needs, asking and responding to questions related to school work, setting high expectations, and encouraging effort. These constructs were identified as having impact on the child's or on the adolescent's educational outcomes (Chao, 2009; Friedel et al., 2007). Previous researches confirm that positive encouragement from parents can support their children's Mathematics success, and that parents' assistance to improve their children's skills in Mathematics leads to an increase in their children Mathematics achievement (Cavanagh, 2007). In addition, children who received high levels of encouragement showed more determination and effort when they encounter difficult mathematical tasks showed that the higher levels of encouragement children received from their parents, the more positive the attitudes they displayed in their Mathematics courses, and on the other hand, the lower level of encouragement children received from their parents, the higher mathematical anxiety these children displayed (Canavagh 2009). The study added that a lot of parents tend to encourage their children in Mathematics, but many of them do not know how to involve or know why their involvement is important. Furthermore, parents can make Mathematics more interesting and joyful for their children by practicing real world informal Mathematics that schools do not practice. Learners whose parents are aware, knowledgeable, encouraging, and involved tended to gain higher academic achievement than learners whose parents are not. Regardless of Parents' backgrounds, it is a generally believe that for learners to be successful in Mathematics parents need to show high expectations for their school achievement (Cavanagh, 2007).

2.19 Parental Educational Background and Learners' Mathematics achievement

There are many factors influencing parental involvement, as well as the relationship between parental involvement and student academic achievement. Among these factors is parent educational background (Goldberg et al. 2013 & Darling, 2011). In addition, parent education levels were found to be positively linked to the amount of parent-teacher contact, parental involvement in school and at home, and teachers' perceptions of how much parents appreciated education. The study added that, parent education levels may not directly impact the amount or quality of parental involvement, but that they may be related to parents' efficacy beliefs regarding their ability to assist the children with the school assignments, and hence this may in turn affect at home parental involvement (Larocque, Kleiman, & Darling, 2011).

For a long time, researchers have developed a great interest in the influence of family background and socioeconomic status, specifically on learners' achievement. Some studies' outcomes indicated that the home background of learners in schools is related to their Mathematics achievement in school. The outcomes of these studies identified some variables that are found to be strong or had moderate association with Mathematics achievement, such as number of books at home, parents' education, computer at home and number of learners' own books. Parents' level of education seems to have a dramatic effect on both parent expectations and the educational aspirations and achievement of their children. Furthermore, level of education impacts parents' knowledge, beliefs, values, and goals about childrearing, in that, some of parental behaviours indirectly influence children's school achievement. Parent's education was seen as a key predictor of children's achievement and that it has positive effect on academic attainment of the learners (Chiu & Xihua, 2008; Marks et al., 2006).

In another study, family educational level characteristics, has been found to predict children's subsequent school performance and educational attainment (Pettit, Davis-Kean, & Magnuson 2009). Again, in supporting academic achievement, parents' educational background influences how their home environment is structured and how they interact with their children. For example, parents' level of education determines their children's educational aspirations, and that, the probability of parents with a high school diploma or its equivalent having a child who aspires to obtain a bachelor's degree is low. On the other hand, parents with a higher level of education, tends to function more as their children's teachers in the home and provide a balance of emotional stability as well as a conducive environment, for them (Davis-Kean, 2005). This implies that, parents' higher levels of education may be an added advantage to enhance their homes at becoming involved in their children's education. It can also facilitate parents to acquire and model social skills and problem-solving strategies conducive to children's school success. Therefore, parent's higher levels of education may assist learners to develop an enhanced regard for learning, have more positive ability beliefs, a stronger work orientation. Thus, their children may use more effective learning strategies than children of parents with lower levels of education. Furthermore, parents with higher level of education are more confident about helping their kids with school work than parents with lower level of education. They depend more on teachers to help their children (Rockwell, 2011). The study further says that college-educated parents believe that their help will result in better academic outcome for their children, and they talk about college with the

assumption that their children would go to college. These parents are able to help their children prepare for college because of their previous experience, while parents with no college education rarely talk about college, and their children pursue other options besides college. Thus, higher level of education results in higher parental involvement.

Studies on higher parental education asserts that parental education is significantly related to learners' academic achievement and that there might be more involvement in families with a more educationally and financially stable background (Nelson, 2009; Muscott, 2008). Further, parents' high educational level and their previous knowledge of Mathematics tend to assist their children to be more successful in Mathematics than their peers whose parents had no previous knowledge of Mathematics (Demir, Kilic & Unal, 2010). Alomar (2006), says it is because highly educated parents know the learning requirements and had the opportunity to create the best educational environment for their children. Furthermore, parents level of expectation, and their provision of an encouraging environments can help to increase the potential development of their children mathematical knowledge and skills. However, it was added that parents with less formal education and low-income might be occupied with survival strategies and focus on how to fend for the family's essential needs than helping their children with homework or participate in their children's school, and does not have time to participate in home school involvement strategies in order to advance the child's learning, but parents with higher level of education discussed more on the relevance and importance of education, and involve themselves more in their children's school activities, such as regular visits to their children's schools (for example, monitoring their children's homework (Cross *et al.*, 2009).

Further, children with academically high achieving parents also have high academic success because their parents are highly involved in their child's academic life, since parental involvement usually includes assistance in children's homework, meeting with their children's teachers as well as being involved in school programmes and events. In support of the above view, Wamala (2013) affirms that the active participation of the parents enhances discipline in schools and supports learners' academic achievement. Furthermore, research has recognized that learners' educational achievement can be influenced by parents' educational attainment (Rockwell, 2011). Fundamentally, parents are considered the most important and influential in the lives of their children. Literature indicates that, 88% of college-educated parents expected their children to complete their college education. Children in this category probably will be anxious to continue on to

graduate school since their parents' expectations were high. If the same study was to be conducted observing people of different ages, it is possible that individuals would pursue the same level or at least one degree higher than their parents (Nelson's, 2009). Parents' education is such a motivating force for a child that paves the way for his/her future. It is an admitted fact that the children of educated parents are more confident, resourceful and experienced than the children whose parents are not educated.

In addition, Hauser-Cram, (2009) stated parents' belief systems and their parenting practices facilitate learners' academic achievement and the two are influenced by parents' education greatly. They both help to form parents' expectations about their children's academic achievement; and at the same time help them to convey those expectations to their children (Hauser-Cram, 2009). A group of researchers also pointed out that parents' Mathematics value, which is defined as the importance parents place on Mathematics and their expectation of their children to excel, plays a significant role in learners' Mathematics achievement. When parents consider a particular subject to be of high importance, their children always perform better in that subject, meaning that the value these parents place on an individual subject directly influences their children's learning in that subject (Hong, Yoo, & Wu, 2010).

A study conducted on parent academic involvement, behavioural problems, achievement, and aspirations in a sample of 463 adolescents from 7th through 11th grades, found that among the higher parental education group, parent academic involvement was related to fewer behavioural problems, which in turn were related to achievement and then aspirations. While for the lower parental education group, parent academic involvement was related to aspirations but not to behaviour or achievement (Rockwell, 2011). Also, studies outcomes over a period of time indicates that there are other variables such as home language, amount of homework, students' time on homework, time spent watching television and computer games, teacher experience, class size, school climate, and socioeconomic background of school – all of which can be linked to learners' Mathematics achievement in many countries. Steinmayr (2010), views that, the best explanation for the relationship between children and parents' education is the higher academic demands that higher educated parents place on their children, which in turn drives their children to work harder. This group of children also have more cultural capital, that tends to contribute to certain personality behaviours such as openness to experiences that children of highly educated parents tend to have (Steinmayr, 2010).

Basically, this relationship has been attributed to parents' beliefs, values, expectations, attitudes and behaviours. The well-educated parents are likely to have high expectations of their children, and at the same time adjusting their expectations to meet up with the performance of their children. On the contrary, less educated parents tend to have little, or often, high expectations beyond what can be realised by their children. In the view of de Haan (2011), high parental education can be compared to a warm, social climate condition in the home, they interact more verbally with their children, use more abstract words, more complex syntax, and invite their child more often into decontextualized discourse, book sharing, and dialogical reading (Rockwell, 2011). According to Nelson (2009), it is a fact that the majority of the literature on parents' education pertains to the direct positive influence on achievement (Spera, Wentzel & Matto, 2009). The literature also suggests that it influences the beliefs and behaviours of the parent, leading to positive outcomes for children and youth. For example, a study found that, parents of moderate to high income and educational background held beliefs and expectations that are closer to the real performance of their children, compared to those of low-income families, and had high expectations and performance beliefs that did not correlate well with their children's actual school performance. The study added that, the parents' abilities to form precise beliefs and expectations concerning their children's performance are essential in organising the home and educational environment so that they can perform well in post schooling endeavours (Bourdabrat & Montmarquette, 2009).

Again, using a sample of low-income minority families, research found that mothers with higher education had higher expectations for their children's academic achievement and that these expectations were related to their children's subsequent achievement in Mathematics and reading (Spera, Wentzel, & Matto, 2009). These more positive beliefs and expectations predicted higher amounts of achievement-related behaviour by mothers in the home as well as more positive perceptions of achievement by the children. Research affirmed that learners' educational achievement can be predicted by parents' educational attainment, and that parents of high level of education tend to provide a learning environment that is specifically structured towards promoting cognitive abilities (Sparkman, Maulding, & Roberts, 2009).

In South Africa, literature review showed a significant difference between the attitudes of pupils whose fathers and mothers had diverse education. It was found that, parents with Grade 10 plus a diploma or degree, had the most positive attitude towards Science

(Cherian 1996). However, Shapiro (2009) states that the parents' education level notwithstanding, when parents are more involved with their children, their academic performance get better and this helps them to get higher not only in schools but also in life as well. The study further states that when the parents who have lower levels of education are more involved, the effect is greater and more positive than the parents with higher levels of education involvement. This view was supported by (Wakasrafiq et al, 2013), in that, parental involvement may include activities like helping children in reading, encouraging them to do their homework independently, monitoring their activities inside the house and outside the four walls of their house, and providing coaching services for improving their learning in different subjects. Nonetheless, Georgiou (1999) says parents that have high education degrees are typically more involved in their children's academic careers, hence, placing more emphasis on academics than those parents with lower education degrees and less involvement in their children's education.

On achievement, literature has indicated consistently that parent education is important in predicting children's success in the educational system. Children's education can be influenced in different ways by parents' education, such as: by the means of transmission of cognitive competencies, by increased opportunities, and by the transmission of parental beliefs and attitudes concerning the value and effectiveness of education. Directly or indirectly, views of parents on school and education may affect children's views through processes as parents' engagement in cultural or educational activities (Noack, 2004). It is clear that to some degree parents play a key role in the shaping of educational aspirations in their children. Parents are often eager to support their children's learning though, not all of them know how to help, or why their involvement is important. Moreover, many parents do not have out of-school programs for their children. Not only because they are not aware of it, but also they lack resources and knowledge on how they should be prepared and implemented.

Parents with less formal education and low-income tends to be preoccupied with survival strategies and thus either focus inward on the family, or time does not permit them to pursue home-school involvement strategies that may improve child's schooling. Demir, Kilic and Unal (2010) affirmed that learners with parents who are highly educated and exposed to Mathematics before in their lives always shows more success in Mathematics than their peers whose parents were less educated and not being exposed to Mathematics. This is because highly educated parents know the learning requirements

and had the opportunity to provide the best educational environment for their children (Alomar, 2006). It was said that by setting high expectations and providing encouraging environments parents can increase the potential development of their children mathematical knowledge and skills (Cross et al., 2009) and that parents' socioeconomic status is correlated with a child's educational achievement (Israel, Beaulieu, & Hartless, 2001).

In the view of Farooq, Shafiq and Berhanu (2011), learners whose parents are educated score higher on standardized tests than those whose parents were not educated. Educated parents can better communicate with their children regarding the school work, activities and the information being taught at school. They can assist their children better in their work and participate at school (Fantuzzo & Tighe, 2000). In tandem with Farooq, et al, (2011), Deplanty et al (2007) state that parents with a higher education level are better qualified than less educated parents to help children with homework. Parent involvement in homework may also decrease from elementary school to middle school and junior high school because some parents are less knowledgeable in subject areas in higher grade levels (Constantino, 2007; Deplanty et al., 2007). In order to attain the higher level of quality in academic achievement, the academic performance of learners depends largely upon the parental involvement in their academic activities (Barnard, 2004). Hence, it is important that educators have an understanding of student's and parent's backgrounds in order to assist them to adequately in determining the best learning methods for learners and how to involve parents in their education.

2.20 Parent-School Communication and Learners' Mathematics Achievement

Communication between parents and teachers or between Home and school can take different forms. Communication can be verbal, written notification, use of technology, and community action strategies. In the opinion of Columna, Senne, and Lytle, (2009), Verbal communication be by face-to-face interaction, like telephone conversations and written notification is a form of communication that can be in form of a letter, newsletter, message or brochure, while the use of technology includes form or types of communication by which we use technology devises to communicate with another person, these includes, internet, e-mail, chat rooms embedded in classroom websites, mobile phones, or video chat (e.g., Skype). There are also Communication action strategies such as school-sponsored programs that are organised on the school grounds (Math or Reading Nights,

Fall Festivals, fundraising events, and so on.). Home-school communication was defined as “a transactional process of exchanging messages and negotiating meaning to establish and maintain relationships” (Steinberg, 2007:105). In the view of Menheere & Hooge (2010), parents are the most important target group for schools to communicate with after learners. Conversely, in general, teachers and schools appear not very well prepared for this. Hence, in the interest of good communication, it is essential that the school formulates a clear policy vision with regard to the relationship with parents. Fundamental to this is the question of whether parents are seen as clients, or more as partners in the context of an educational partnership.

In the context of South African education, reforms that are related to school and parent communication were introduced by the South African School Act (SASA) 84 of 1996 in 1994. The Act instructed all schools to set up the school governing bodies, ensuring parents’ participation in their schools and to come up with effective means of communication between educators and parents. Introduction of these reforms according to Lemmer and Van Wyk (2003), brought about an environment that is more beneficial for effective communication between educators and parents. According to the Act (RSA, 1996), the comprehensive definition of a parent implies that schools should acknowledge deferent types of family structures and develop a variety of home-school communication strategies accordingly. SASA, within its framework, recognized educator-parent communication to be vital to effectively improve the quality of teaching and learning. Simon and Epstein (2001) reported that the learner is at the centre and the main actor in learning; the child is the reason why parents and educators communicate. Good relationships between teachers and parents should be developed and maintained in order to maximize parental involvement. The importance of a shared commitment between parents and teachers in order to enhance academics achievement is so much that it seems one cannot be separated from the other. Parents are the closest to their children than anyone else and can be good school partners if given the chance.

The teachers need to inform the parents how they (the teachers) expect them to play their part in helping their learners with their schoolwork. Informing parents about their roles and how they may play them is very important, because this will enable parents to meet the teachers’ expectations, whereby teaching and learning will be facilitated. This will be of great benefit to the learners, because they will receive education which is well-coordinated by both the teachers and the parents. The collaboration between teachers

and the parents will be guided because the kind of parental involvement will be an informed one. In home-school relationship, communication between school and home is very important. The level of communication between school and the parents determines parents' level of involvement in the activities of the school, and this is vital in turning a relationship to a partnership. Studies reveal that two-way communication is vital, to enable the school and home continually share their respective information about the child regularly (Lemmer & Van Wyk, 2009; Crozier & Reay, 2005). There is a two-way communication when educators and parents dialogue together, and that effective dialogue develops from a growing trust, a mutuality of concern, and an appreciation of contrasting perspectives (Lemmer & Van Wyk, 2009).

In the same vein, Wright, Stegeline and Hartle (2007), state that the process of sharing information through continuous dialogue is very vital in building partnerships. It was said that, communication across schools, homes and communities involve commitment to be informed as well as to inform. Usually, schools share information about events such as curriculum, schedules, routines, discipline, guidance, strategies, rules, philosophy of teaching and child progress. On the other hand, the families may share information about their perception of their children's personality, previous experience, health, strength and needs and their personal goals for their children. The most important thing for all involved is to find communication strategies that will get to all. Hence, it is important to improve the quality of communication to nurture positive and strong partnerships with families.

Unfortunately, many communications with families have been planned to be one way and parent conferences are still in old-fashioned style of communication with teachers, readymade development report to be distributed to parents; even with daily checking this can be dominated by teachers reporting on a child's academic progress (Keyser, 2006). DePlanty, et al. (2007) suggested that the school should aim at encouraging parents to be involved in the activities of the school. Schools can do this in different ways like organizing workshops that focus on the benefits of parent involvement, and those parent behaviours that are most important, sending brochures or pamphlets home, educating parents about parental involvement, and by talking with parents about involvement during parent-teacher conferences. Partnership of teachers and parents will produce positive outcome, because together, they will be able to come up with effective approaches that will be of great help to learners in the classroom.

According to Epstein (2008), good relationships between teachers and parents could be improved through two-way communication. Communicating refers to how best to design and conduct an effective two-way communication that is, from school-to home and from home-to-school, related to school programs and children's progress. Epstein (2008) described two-way communication as the sharing of information by both teachers and parents. This implies that shared expectations are developed; problem solving and decision-making are jointly undertaken. Epstein (2008) stated that it is important to create good relationships between the school and the home. Epstein also claims that the relationship between teachers and parents is a determining factor for educational achievement. In his opinion, schools should prioritize parental involvement to promote the school's success. This could be possible if schools could be changed into more open, flexible systems. This should result in learners having more inner discipline, with teachers and parents having good relationship.

Literature review reveals that parent-school communication is important, and that parents can be assisted by school counsellors or teachers even on question outside school issues (Bicer, Capraro, & Cetin, 2012). Furthermore, communication between parent and teachers is important for parents to follow up their children Mathematics learning processes from a professional education viewpoint. The finding of Fan and Williams, (2010) studies which show that school-initiated and family initiated parent-school communications have opposite effects on children's academic development notwithstanding, Bicer et al. (2010) noted that children of parents who communicate with their children's Mathematics teacher to enable them assist their children at home, tend to become more successful than learners whose parents did not. Similarly, learners whose parents attended Mathematics training and informational workshops had children who demonstrated more success than learners whose parents did not attend (Epstein, 2005b).

Also, parents can be influenced by parent-school communication. Parents can obtain academic information regarding their children in schools through parent-school communication, which might lead to a clearer understanding of their children's academic ability, leading them to adjust their parenting behaviour. Chinese parents commonly regard the performance of children as their own report card and largely base their own worth on their children's achievement (Ng, Pomerantz & Deng, 2014). Hence, being aware of their child's academic performance through active parent-school communication will directly impact parents. When their children have better academic

results, parents commonly experience higher self-worth and more positive emotions, which might indirectly promote the emotional wellbeing of their children and better academic achievement. Teacher parent' relationship is reciprocal, in the sense that, teachers need the assistance of the parents for the learners to excel. Parents are also interested in lending a helping hand, since it is the future of their children which is at stake. Regrettably, and more often, there is communication breakdown in this relationship. The two parties apportion blame to each other, specifically when the learners' results fall below expectation at the end of the academic sessions. While teachers blame the parents for not doing anything at home to assist their children with their schoolwork, on the other hand, parents will insist that it is the teachers that failed to do their work. It is high time and of utmost importance to put an end to the blame game, and to come up with ways by which the two groups can assist the learners to excel in their academic endeavours.

Furthermore, research on effective schools, indicated strong and positive school home relationships in schools consistently where students are learning and achieving despite often working in low social and economic neighbourhoods (Sanders & Sheldon, 2009). In addition, these effective schools have made a real effort in reaching out to their students' families in order to establish a relationship and collaboration. In the opinion of Epstein & Sanders (2006), little attention is paid to partnerships and collaborations with parents because many educators and administrators still see themselves as individual leaders of their classrooms and schools. For improved students' educational achievement, it is vital that educators explore possibilities to develop and form partnerships with parents (Richardson, 2009). Teacher-parents' partnership is very important, even more in high schools, where parents do not always have the confidence in themselves to assist their children with the school curriculum (Sheldon, 2009).

According to Gal and Stoudt cited in (Sanders & Sheldon, 2009), strong partnership with families is important for schools when it comes to Mathematics and to reach out to parents. Nevertheless, studies indicated that, a well-designed programme is an essential in any successful partnerships. Such programme includes good planning, organisation and communication, which will encourage more collaboration between stakeholders. Successful partnerships to a large extent as a result of a well-managed process of communication. Hence, studies lay more emphasizes on sound and effective communication between educators and parents as a determinant of successful educator-parent partnerships (Keyser, 2006; Wanda, 2006). Furthermore, Keyser (2006) submits

that establishment of good educator-parent partnerships at school depend largely on effective communication between educators at school and parents at home. This point was further buttressed by Crozier and Reay (2005) when it was asserted that fair dialogue between educators and parents is crucial for achieving effective partnership required for attaining positive educational outcomes for learners.

Regarding Mathematics, scholars added that it is important for homes and schools to team up and support children's education because how parents interact with their children, can influence their children's self-perception of their own ability and achievement (Sanders & Sheldon, 2009). Studies show that how children perceive their Mathematics ability is greatly influenced by their parents' perception of their ability rather than the mark scored in Mathematics (Sanders & Sheldon, 2009; Glasgow & Whitney, 2009). Furthermore, the psychological effects influence children's choice of career, later in life. (Bleeker & Jacobs, 2004). In Sheldon's view, parents' lack of confidence about their ability to assist their children with Mathematics can be helped by assisting families on how best to interact with their child with the subject Mathematics (Sheldon, 2009). In addition, the method of teaching Mathematics now is not the same with the method used to teach in the time of their parents (Glasgow & Whitney, 2009). Schools therefore, as a matter of importance needs to come up with activities and partnership programs with parents. Unfortunately, this is lacking. Review of literature showed that not many Mathematics programs aimed at connecting with parents and this is opposing the study outcomes that claim that efforts to get parents involved in learners' Mathematics learning has potential to improve the students' performances (Gersten & Lee in Sanders & Sheldon, 2009). Kowalski (2011) affirmed that good relating skills between educators and parents helps to form an effective partnership in school, while supporting attitudes of truth, respect and understanding establishes an effective communication.

An effective communication has been defined as a process of sending the right message, correctly received and meaningful to the recipients. Not only does it deliver information, it also encourages effort, changes attitudes, develops and sustains relationships (Bender, 2005). In other words, effective communication strengthens the management process, holding it together. Parents and teachers should avoid apportioning blame and not to disregard each other in their relationship as partners in education, but rather promote better communication. A network of communication should be encouraged between the Mathematics teacher and parents regarding the children's progress, making learners to

benefit from the support of the two sides. Scholars agree to the fact that constant communication between home and school is important to effective parent involvement in children's education (Lemmer, 2013; Van Deventer & Kruger, 2008). In addition, for the sake of the child, it is important for both Parents and teachers to exchange ideas, and learn from each other during regular, open, two-way communication. Globally, the use of direct communication between parents and teachers in schools usually is through the parent-teacher conference, including South African schools (Lemmer & Van Wyk, 2009; Allen, 2008; Olsen & Fuller, 2008). To buttress this point, studies indicated regularly also that there is a significant relationship between learners' success and home-school partnership and communication (Van Deventer & Kruger, 2008; Lemmer, 2013). Researchers argue that issues such as parents work schedule, hours spent at jobs, attention for other children at home among many other things might pose a challenge to parent-school or teacher communication.

However, parents must be given a place in the educational system if they are genuinely recognized as partners in the education of their children (Olender, Elias & Mestroleo, 2010). Hence, the need for regular and effective communication in schools to link home and schools together. In view of this, Strayhorn (2010) suggests the use of different, current and advanced ideas such as internet tools or social networking sites to encourage parental involvement. Studies conducted on four Algebra classes, on the effects of parental communication on students' Mathematics success, reported a better result of learners whose parents received a monitoring sheet about their Mathematics' achievement, compared to learners whose parent did not use the sheet (Sirvani, 2007). Regarding learners of parents with little or no mathematical background, home-school communication was found to be very vital compared to learners from parents whose mathematical background is very good. Parents' ignorance of the importance of Mathematics in their children's future education might be responsible for this, hence, unable to pass on good motivation about Mathematics to their children (Hyde, Quest, Alibali, Knuth & Romberg, 2006).

Researches have indicated that realization of school-home community partnership encounters lots of hindrances (Rubin & Abrego in Obeidat & Al-Hassan, 2009; Christenson & Sheridan, 2001). In a study for example, it was said that parents and teachers lack good understanding of their genuine desire and of their support for parental participation. Due to poor parental response to school communication, it may be assumed

by teachers that parents do not want to participate. Similarly, parents do not have confidence in teachers' invitation to be involved. In addition, both parents and teachers have the negative impression about learners' perception of parental involvement. For parents to actively participate in their children's education, these wrong impressions need to be corrected (Glasgow & Whitney, 2009). According to Jeynes (2010), involvement of parents in parent-teacher conferences is high comparatively in their child's primary school years and its likely benefits are recognised as well. Notwithstanding, there is no assurance that these benefits might be realized merely by a regular parent-teacher conferences in the school's annual programme. McEwan (2005), noted that during parent-teacher conferences, teachers do not communicate effectively with parents, more badly in the case of trainee teachers (Graham-Clay, 2005) in cosmopolitan situations (Guo, 2010). Another study noted that as much as it is important for teachers to effectively communicate with parents, it is rare to find instruction to develop communication skills in preservice or in-service teacher training (Lawrence-Lightfoot, 2004). There are few researches indicating the use of written reports to parents about learners' in-school behaviour. However, an increase in homework completion and decreased in disciplinary referrals was found among the treatment group of a small-scale study in Texas by sending individualized "monitoring" reports home to parents twice a week for 12 weeks (Sirvani, 2007).

Furthermore, in a larger study in Brazil, Bursztyn and Coffman (2010) conducted randomized trials with parents using text messages to alert parents on their child's attendance or absence from school, and showed that parents display a clear preference for receiving such communication. Brown (2006) affirmed that working with parents is an activity that is rewarding to all. On one hand, parents receive information about the school functioning, and they assist with their children's curriculum activities. Obeidat and Al-Hassan (2009) submits that teachers needs to acknowledge parents good job done at home when noticed or improvement on their child's progress, not only on child's negative reports at all times, as this will in turn, encourage good relationships with parents. Home-school communication was defined as "a transactional process of exchanging messages and negotiating meaning to establish and maintain relationships" (Steinberg, 2007:105). According to Department of Education Employment and Workforce Relations (2008, 2009), among other essentials of any good early childhood services and schools are introduction of parent involvement and the development of supportive relationships and effective communication with families.

Teachers' use of communication to families must be dynamic and device different means of communication with parents (Knopf & Swick, 2007). Daniel (in press) discusses the importance of teachers supporting parent involvement through regular 'teacher outreach', which has been identified as strongly related to parental engagement in family-school partnerships. Furthermore, findings of studies confirmed that large number of parents' desire good success for their children in school but needed to be informed by the schools to enable them to be effective partners in the education of their children (Epstein 2009). This was further explained that, school-to-home regular communication about the child's learning, behaviour, play and interactions with peers can help keep parents informed about their child's general well-being and, on the other hand, by gaining insight from parents. Such communications can equip teachers to have better understanding of the children. Research suggests that verbal communication can be used when children are at drop-off or pick-up from their various homes, and also at parent-educator conferences, home visits or via the telephone. Importantly, the use of written communication in form of newsletters, daily journals, parent letters and notice boards can also be effective, while other parents may prefer electronic communication in the form of email, websites and digital portfolios. Effective strategies for enhancing teacher- family communication require both one-way and two-way communication; hence, making schools to become friendly community institutions, rather than distant and unreceptive bureaucratic institutions (Knopf & Swick, 2008).

Regarding communication between parents and the school, Lemmer and van Wyk (2009) suggested three perspectives which are:

- Separate responsibilities of families and school;
- Shared responsibilities of families and school; and
- Sequential responsibilities of families and school

Separation of responsibilities of families and school

This assumption is based on the separate responsibilities of institutions and stresses essential incompatibility, competition and conflict between families and school. The assumption of this perspective is that the school administrations and family organisation are directed, respectively, by educators and parents whose diverse goals, roles and responsibilities are best fulfilled autonomously. This perspective affirms that distinct goals

of two institutions are achieved most efficiently and effectively when educators maintain their professional, universalistic standards and judgements about the children in their classrooms and on the other when parents maintain their personal attention and particularistic standards and judgement about their children at home. This implies that, in managing communication, principals should be cognisant of this perception. The principals as the head of schools should have the understanding that there is useful knowledge that can be provided at home, hence, principals should make sure that educators respect the role played by parents at home in development and education of their children (Lemmer & Van Wyk,2009).

Shared responsibilities of families and school

The emphasis of this assumption is on the coordination, cooperation and complements of schools and families and encourages communication and partnership between the two institutions. According to this perspective, the schools and families share responsibility for the socialisation and education of the child. In other words, educators and parents are assumed to share the same goals for their children, which can be achieved most effectively when educator and parents' partners together. Here, the principals' role is to see that the communication line between educator and parents is constantly open to ensure that the common goal of helping children is achieved.

Sequential responsibilities of families and school

The third and the last perspective highlights the critical stages of educators' and parents' contributions to child development, and this is based on the assumption that the early years of a child's life are critical for later success. By the age of five or six, when the child enters formal schooling, the child's personality and attitude toward education are firmly established. Parents teach their young children needed skills, arrange educational programmes and experiences, and are guided or supported by social and educational agencies (e.g. pre-school educators and the media) to prepare their children for school; after which the teacher assumes the major responsibility for educating them.

The implication of these three family-school perspectives show obviously that it is vital for principals and staff to have the understanding of these theories of family school communication as they can assist in creating effective partnership between educators and parents in schools.

Barriers to Communication

Cleary (2008) defines communication barriers or roadblocks as factors that hamper the achievement of understanding between a sender and a recipient. Berger and Riojas-Cortez (2012) acknowledges that there are different barriers or roadblocks that may obstruct the creation of effective communication between school and parents. Both the school and parents create these roadblocks. Some of these roadblocks are used to protect positions while others are there because of participants' inability to understand one another's positions. The principal as the head of the school should take cognisance of these roadblocks in order to effectively manage communication between all the stakeholders of the school, particularly between educators and parents, and the awareness of the roadblocks will enhance communication (Cleary, 2008). According to Berger and Riojas-Cortez (2012), the under listed are described as parent roadblocks:

- My own and my child guardian role;
- Avoidance role; and
- Club-waving advocate role.

My own and my child guardian role

Berger and Riojas-Cortez (2012), explains that, commonly and unknowingly, many parents, see their children as a part of themselves. Their attitude can be simply described as "Criticize my child and you criticise me". According to the study, when parents put up a covering over a perceived criticism, this makes things difficult to communicate with them. They may shy away from open, honest communication in an attempt to shield their child and their own self-esteem. Parents' entrusted interest in the child can be directed in a positive way. The study further states that effective communication, with positive suggestions for encouraging the child, can enable parents become partners with the school.

Avoidance role

Berger and Riojas-Cortez (2012) described this roadblock to be those parents, who do not feel the sense of belonging, avoid going to schools' organized programmes. There are some parents who feel inadequate, or having inferiority complex of some kind, such parents avoid coming into contact with the school. Parents in this category can be assisted through encouragement so that they can contribute and be involved. In order to create a school environment that is conducive to good school-community relations and

effective communication, the principal can make the school facilities available for community activities such as evening classes for adults and social purposes as well as maintaining regular contact with outside communities (Van Deventer & Kruger, 2008). In addition, there is need for the principal and staff to be thoughtful, considerate and sympathetic about what they can do with respect to demands from the public. Again, in managing educator-parent partnership, the principal must be thoughtful, considerate and sympathetic about what they can do with respect to demands from the parent.

Club-waving advocate role

According to Berger and Riojas-Cortez (2012), occasionally parents get carried away with their commitment to their children and they display this through a power play. Parents in this category always become rude in their attempt to protect their children. These kind of parents express concerns through hostility, hence, the schools must be aware of concerns like this and address the situation on time and when necessary to do so. Furthermore, parents in this category could be given opportunities to become leaders in areas where they can contribute, for example school governing body could be a forum for this.

School Roadblocks

On the other hand, Berger and Riojas-Cortez (2012) listed the following as some of the school roadblocks.

Authority figure role

As described by Berger and Riojas-Cortez (2012), most of the time, school educators or principals who act as chief executive officers obstruct the flow of communication. These educators and principals claim to be the authority, ready to impart information to the parents. They refuse to set the atmosphere for parents to be partners in the discussion. Bloom (2001) also states that power differences that exist between families and schools occasionally affect home-school communication. Some schools communicate with parents rudely and in a controlling, disrespectful and in a discouraging way.

Berger and Riojas-Cortez (2012), also states that schools that ignore and communicate with parents in a disrespectful way hinder effective communication. Hence, both the principal and staff need to be cognisant of this roadblock so as to improve communication with parents. The principals should as a matter of duty, establish and manage communication that is two ways and respectful between educators and parents.

Busy teacher role

According to Berger and Riojas-Cortez (2012), the greatest roadblock to good communication between parents and teachers is time. Steyn and Niekerk (2007) agree that time is an element in communication that usually causes problems. Some teachers are too busy and do not have time to communicate with parents. Both teachers and parents need to set aside time for communication. In order for schools to overcome this barrier, the role of the principal should be to plan and reorganize schedules to include time to communicate with parents.

School climate

As indicated by Sekongo (2002), some schools have an unfriendly atmosphere that do not make many parents have a sense of belonging, or that the school cares; and that schools tend to communicate with them often when their children are in trouble. Therefore, communication between parents and schools is most of the time, that of a negative type. Van Deventer and Kruger (2008), view that some of the major barriers to communicating and working effectively with families are the attitudes of many schools (educators) to families and families to schools. The study added that a school atmosphere has a strong direct influence on the motivation and achievement of a good partnership between the school and families. Hence, the school principal and the staff should deliberately work towards creating a positive and open school environment.

In agreement with the above view, González-Mena (2010), explains that an environment influences behaviour as well as shaping thoughts and creating feelings in people, not only in adults, but also in children. The environment also gives messages about how to behave. The study acknowledges that setting up an inviting, friendly and conducive environments for parent by schools might not be an easy task, but, when possible, it is a worth-while goal. Creating a sense of belonging for parents should be done from the beginning, making sure that the school environment is inviting to everybody. Furthermore,

Berger and Riojas-Cortez (2012) advocate for an open-door policy and that schools that operate a closed-door policy are hostile or schools that demand appointments for transaction in the school present a negative atmosphere for home-school relations. By operating an open-door policy early, the environment is set for parents and school to work together and avoid the 'problem conference' syndrome. There should always be dialoguing between parents and school prior to the development of any problem, through constant contact with parents. Therefore, in order to avoid roadblocks of these kinds of the principals should play an active role in managing communication to strengthen educator-parent partnership by developing effective communication skills that will help them to be highly effective in performing their duties, especially in managing communication.

2.21 Hindrances to Effectiveness of Parental Involvement

Parents encounter many hindrances that may prevent them from being as involved as they would love to be; and some parents use these hindrances as excuses for not being involved in the education of their children. Through the review, it was admitted that barriers that are affecting effective parental involvement in children's education are many (Le Cordeur, 2015; Mncube, 2009; Berthelsen & Walker, 2008). According to Reynolds (2005: 154), poor parenting skills, low socio-economic status, work-related commitments, and negative teacher attitudes towards parents are some of the barriers affecting effective parental involvement. Studies have identified factors like parents' own educational attainment, parents' views on the appropriate division of labour between teachers and parents, the amount of parents' available free time, and the socio-economic status of the family as barriers (Singh et al., 2004:35 cited in Lareau, 1987:79). The same barriers were mentioned by other scholar such as AlShammari et al. (2008) Mestry and Grobler (2007:177), Mncube (2009:95), and Van Wyk (2003).

In some parents' opinion, they feel that if their children attend quality schools, there is no need to become involved unless specific problems are stated by their children's teachers. In addition, making learners' successful in Mathematics dependent on direct help at home as it might be counter intuitive, in a situation where most parents did not train formally as teachers. Some research suggest that direct forms of involvement were negatively related to children's Mathematics achievement, which is the same thing with other research that has identified negative relations between parental involvement and children's academic outcomes (Fan & Williams, 2010; Levpuscek & Zupancic, 2009).

Another barrier is that some parents' lack of basic mathematical skills expected of elementary and middle school students. In United State for instance, a study found that 55% of American adults are without the expected middle school level basic quantitative skills, such as calculating a weekly salary based on hourly wages or calculating the cost of groceries (Kutner et al., 2007). Generally, Mathematics nervousness is common in adults when faced with mathematical problems outside whole number arithmetic (Ashcraft et al., 2007). It is therefore expected that parents that are ill equipped to help their children academically are more likely to use aversive forms of parenting, such as negative reinforcement, punishment, or non-responsiveness (Mellon & Moutavelis, 2011).

This is not because they are not interested and uninvolved in helping their child but because they do not know how to help their child (Gal & Stoudt, 1995; Sheldon & Epstein, 2005). In line with the above, there is need to understand how to empower parents to best support their children's mathematical development. According to Siegler and Ramani (2009), the use of nontechnical ways can assist parents to support their preschool children's mathematical development—such as playing numerical board games. The study called for more research on how to support parents across all levels of learner's education. Frances (2009) also proposed some barriers to parental involvement: such as demographic changes, historical factors, and teacher perceptions of American parents as not valuing education. The parents in that study did not deem it appropriate to engage in explicitly educational activities at home. This was especially true in Mathematics, as the subject Mathematics become increasingly complex and parents may not have had the content knowledge or skills needed to help their children at home (Levpuscek & Zupancic, 2009; McDonnall, Cavanaugh, & Giesen, 2012).

Hornby and Lafaele (2011) in a study listed barriers faced by African-American parents; inconvenient meeting times and location, no child care, uneasy feeling while on school premises, problems with transportation, language problems, and inability to get time off work. These barriers were consistent with findings from other studies, and more such as, language barriers (professional language used by teachers), physical barriers (time and location of school events), emotional barriers (parents who themselves were not successful while in school), cultural differences (when teachers make erroneous assumptions about parents), and logistical barriers (job problems and day care issues).

Another study stated that some of African-American parents have expressed that their middle school students become more independent and autonomous as they enter their adolescent years, and would rather not have their parents show up at school unannounced for some school events (Turney & Kao 2009; Larocque, Kleiman, & Darling 2011; Hill & Tyson, 2009).

Another major barrier could be different circumstances around families. For example, single parents and those with young families or large families may not find it easy to be involved in their children education because of their responsibilities to take care of their family. According to Hill and Taylor (2004), it is needful to understand each community's unique barriers and resources, for partnership between families and schools to be established and sustained effectively. In agreement with this statement, Olsen and Fuller (2008) state that educators need to identify the hindrances to home-school partnership and then take a practical step that will enable parents to become major participants in their children's education. The under listed factors among others are acknowledged to be the major barriers to parent involvement.

2.21.1 Communication

In the building of home-school relationship, communication is very important. In home school partnership, communication, or the lack of it could be a hindrance. According to Sekongo (2002), atmosphere of some schools are not friendly to parent; many parents do not always feel at home in their children's school, or that the school cares, and that often, the only time schools communicate with parents is when their children misbehave in school. Communication between parents and schools has been viewed to be on the low side and in secondary school tend to be one sided power relationships from school to the family except from conferences. Also, families who does not understand English nor speak the same native language with the teachers' or families whose literacy skills may be low, may feel intimidated about that or incompetent to communicate with the teacher (Decker et al, 2007).

2.21.2 Financial Resources

Research shows that over half of the schools that did not implement community activities fail to do so because of difficulties in identifying community partners, time constraints and lack of school leadership (Sanders & Lewis (2005:3). Muscott, (2008), in their study,

identified teachers' inadequate preparation regarding establishing and sustaining relationships with parents and material resources for engaging parents and pressure from under resourced national and state accountability measures as the major barriers to parent involvement. Furthermore, Nojaja (2002) explains that there is a culture of poverty in which working class families place less value on education than middle class parents, and are hence less disposed to participate in the child's education. As many parents would have loved to maintain their relationship during the secondary school years, only a small percentage receives guidance from schools on how to help their children. Again, inability to manage many commitments and numerous demands on their time and resources are affected because of these commitments. These may include issues such as child-care issues, transport difficulties, and in rural areas, long distances to travel to the school, being too busy, not always because they don't want to be involved, but because of their work lives.

Similarly, money could be an issue when parents are unemployed, making many of them not to be able to afford a car or to pay babysitters and enable them to attend school meetings. There may be different and peculiar challenges facing parents with the kind of jobs they do, if both of them are employed. In a situation where both parents work, there will be less time available for both home-based and school based parental involvements. For example, some jobs may not be flexible enough for parents for taking time off for school-based parental involvements, and some other jobs may leave parents too tired at the end of the day's work to assist children in their homework (Catsambis, 2001; Green et al., 2007). In addition, in some cases, parents' general psychological resources may be a barrier to parental involvement. For example, parents with poor physical or mental health or without an effective social support network, including extended family members, may not be involved effectively in parental involvements (Eccles & Harold, 1993).

2.21.3 Beliefs and Values of Parents on Parental Involvement

Parents' beliefs about different issues can act as barriers to effective PI. Parents' understanding of their role in their children's education is very important. Parents' active involvement might be less effective in either school-based or home-based if they think that their role is just to take children to school, which then takes over the responsibility of their children's education. Also, Hoover-Dempsey & Sandler (1997), state that parents who did not belief in their ability to assist their children are likely to avoid contact with schools because of their view that their involvement will not bring any positive outcomes for their children. Reasons could be due to the language of instruction and they are not

at ease enough to communicate effectively with the teachers and for others, it can be as a result of their negative experiences in the past, with their children's previous schools, or their personal negative experience in either learning or behavioural difficulties while at school.

The lack of confidence may come from parents thinking that they lack enough academic competence to effectively help their children. This belief become more obvious as student's progress through high schools and their academic work becomes more advanced (Eccles & Harold 1993) and such beliefs act as a barrier to PI, despite the fact it is widely known that high level of education is not all that is needed for them to support their children's learning (Hornby, 2000; Hoover-Dempsey & Sandler, 1997).

Another type of parental belief that is dangerous to involvement in their children's education is the view about children's intelligence, how children learn and develop their abilities. The parents' belief that their children's intelligence is fixed and that achievement in school is primarily due to children being lucky enough to have high ability will not help them to see the need in getting involved in their children's education. Parents believe that the inborn ability of children has upper hedge over their achievement and view such things as encouraging children to do their homework or attending parent-teacher meetings at school as of no effect and a mere waste of time. However, parents who believe that their children' achievement in school depends as much on effort as ability, and that their support can enhance their children's abilities, are more likely to embrace PI positively (Hoover-Dempsey & Sandler, 1997).

Parents who believe that upbringing of their children is important and impact their development are much more likely to respond positively to parental involvement compare to those parents who does not believe that they have impact on their children's development. In addition, Decker et al (2007:4) found that efforts of high schools to improve network or partnership with learners' families and communities were stalled by a widespread belief among families, educators and administrators that partnerships are not necessary at the high school level. On the other hand, Decker et al (2007) mentioned lack of school support for diversity or negative attitudes by school personnel toward families with diverse backgrounds and needs as another hindrance to PI. Hence, parents from minority and low socio-economic backgrounds feel that they have nothing to contribute, as they are labelled as less involved and less interested in the education of their children. Likewise, Le Cordeur (2015) states that the parental involvement participation of parents with children in poorer schools in the management and

governance of the school is not as effective compared to participation of parents whose children attend schools serving a wealthier clientele. This then implies that in South African context, schools situated in outside township, should experience less effective parental involvement than schools in township.

Studies conducted in Mthatha on exploring parental involvement in learner's academic work and the investigation of parental involvement in pre-school education revealed that parents confirmed that some of them did not understand the new education system called National Curriculum Statement (NCS) with its approach, Outcomes Based Education (OBE) (Mkile, 2009; Nyezi, 2009). Hence, parents found it difficult to assist their children fully in their school work. In this regards, Cotton and Reed (2001) suggests that parents need to be offered relevant orientation and training related to their children's education. It was further argued that many forms, such as information leaflets and workshops would be beneficial to parents. In addition, parents showed that they did not stay with their children because they worked long distances away, and were not able to assist their children with school work because they were not at home during the week. Nyezi (2009) in his outcome says that Parents reported that writing letters must only be the way to invite them to meetings at preschools, and that parents suggested other means of communication like phone/calling the parents, then if the schools was not having enough funds, the announcement with local radio station will serve the same purpose. Parents thought that they were supposed to wait for the school teachers to inform them about their children's performance.

In essence, the lack of effective communication had also led to parents remaining unaware of their right in being involved in the formulation of school policies. Mkile (2009) says that few parents stated that they were illiterate and as a result were not able to assist their children. This shows that very few parents were unwilling to assist with their children's education; unfortunately, illiteracy creates a serious hindrance. Furthermore, Mkile (2009) stated that there were parents who indicated that they were willing to involve themselves in the education of their children but stated that their children distorted the information given to them by their teachers. In other words, their children at times did not deliver the original information from the teachers to their parents. With this, it becomes obstacle in an attempt by parents to assist their children's school work.

2.22 Justification for the choice of Grade 8 Learners

2.22.1 Early Adolescent Development and Parental Involvement

Early adolescence is a distinctive period of human growth and development that occurs between childhood and adolescence. During this stage of the life cycle, young adolescents (10 to 15 years old) go through a quick and significant developmental change. It is an important factor of effective parent involvement in middle school students' education that involves a careful understanding of the distinct cognitive development characteristics of their life cycle stage, early adolescence. Moreover, recognizing and understanding the unique developmental characteristics of individuals in this stage, specifically intellectual characteristics and their relationship to the educational program are central to the achievement of middle school students (Caskey & Anfara Jr., 2007).

Considering an individual in terms of a complete system according to Bronfenbrenner's bio-ecological model, the chronosystem stresses change that occurs through time and affects all other related systems. The chronosystem also plays an important role when considering constructs such as parental involvement (Donald et al., 2010). As both parents and children play fundamental roles in parental involvement, developmental considerations of the two are regarded necessary factors. Andrews and Bishop (2012), defines Adolescence as "the developmental stage occurring from puberty until adulthood, approximately between the ages of 12 to 18 years for females and 13 to 21 years for males" and that change can be described as the typical characteristic of this developmental stage, in terms of physical changes, emotional, cognitive and social. Kreider, (2007) also asserts that adolescence is a period of rapid changes, ranges between ages 11 to 17 years. This period of puberty, children develop abstract thinking abilities, questioning, challenging argumentation and transition out of middle school and into high school. Children in this category are at greater risk of dropping out of school, arrest, drug use, and psychological disorders than other age groups.

Research indicates that to be successful in school and in life, adolescents need trusting and caring relationships, opportunities to form their own identities, engage in autonomous self-expression, and take part in challenging experiences that will develop their competence and self-esteem. In addition, adolescents desire freedom and time with their peers, while continuing to depend on guidance from parents and other adults around them (Kreider, 2007). The fact that, parental involvement remains significant during the adolescent years notwithstanding, family involvement in education is still at the lower ebbs at the middle and secondary levels (Kreider, 2007). The identified eight stages of

development are: infancy, toddler, early childhood, middle to late childhood, adolescence, young adulthood, middle adulthood and late adulthood. All these stages have their peculiar challenges that an individual faces and brings about positive and negative experiences (Donald et al, 2010).

According to Brewin and Statham (2011), the fifth developmental stage of adolescence, is the time when the individual is faced with the challenge of self-identity, and coming to the understanding of who he or she is. It is the time of maturation when adolescents struggle to become self-dependent from family control or parental limitations. As mentioned earlier, that it is the time when child's social identity becomes more and more important, and a bigger gap is created between themselves and their parents; and that adolescents tend to push back against parental checks during this stage (Didier, 2014). All these changes put together, could have affect the child-parent relationship, which could in turn, have an effect on parental involvement (Bru et al., 2010). In addition, researchers and theorists commonly view adolescence as a specifically sensitive developmental period because of the dramatic biological and cognitive shifts, changes in self-understanding, and shifts in social relationships with peers and parents (McGill, Hughes, Alicea & Way, 2012).

Apparently, the same importance is attached to many developmental changes that the adolescent undergoes in terms of how they affect the parent-child relationship vis- a-vis parental involvement, and should be given to the changes and development parents undergo likewise. This is because parents seem to maintain healthy involvement in their adult child's life if he or she was able to develop successfully together with their child (Van Ingen & Moore, 2010). The changes and adaptations take place from the parents' side in terms of their adolescent's changing developmental needs, and that, it is almost inevitable that there will be a lack of fit between the developmental needs of a growing child and that of an aging parent, and this incompatibility cannot but to produce pressures and conflicts in the parent child relationship. Hence, parental involvement is a give-and -take occurrence, where the nature of parental involvement is greatly determined by both the child and parent, in a continuing journey of development and change throughout life (Van Ingen & Moore, 2010). Furthermore, Moretti and Peled (2004: 552) refer to the "nature of the adolescent-parent attachment bond" which is "paramount to how both parties negotiate" during the developmental stage of adolescence. At this critical stage of adolescence, there is need for effective support in developmentally appropriate forms of parental involvement (Chen & Gregory, 2009). Study on *parent-school involvement of African-American and EuroAmerican families*, that parents tend to be more involved

during their children's early school-aged years, compared to when their children are older and also believed that a major motivating factor for parents to become involved is poor school performance. As soon as the children's grades drop, the need for involvement becomes obvious. The study added that it seems as if parents were adapting their involvement based on their child's age-related and individual scholastic needs (Hill & Craft, 2003).

According to Maras and Aveling (2006), in a study on the transition from primary to high school for students with special education needs', discussed about a collaborative approach where "effective communication between support services (e.g. the school), the child and parents can facilitate successful transitions by allowing support to be tailored to individual learner's' needs" (p.196). It implies that, a constant awareness of a child's unique and age-related needs should guide parents to adapt their parental involvement accordingly. In addition, Bru et al. (2010), affirmed that characteristics of the school environment often become less facilitative in fitting the needs between learners and the learning environment. The study added that the school environment (including support from teachers) adapts according to the age appropriate needs of learners, just as parents are expected to do in terms of parental involvement. Furthermore, a study was able to identify what form of parental involvement is most suitable for adolescence. The study discovered that "less recognized psychosocial types of parental involvement may be more developmentally appropriate and effective in helping teens achieve educational achievement than are practice-based involvement in school activities" (Chen & Gregory, 2009:61).

Additionally, Pomerantz et al. (2007) viewed that, irrespective of adolescent's age, his or her needs should also be taken into account. The study explained that parents should especially be sensitive in their involvement with children who are in greater need of scholastic assistance and who have had negative competence experience or academic failures. In another study, Cooper et al. (2000) stated that parental involvement may be most beneficial when parents adjust their involvement to children's competence, experiences and current age. Therefore, it is obvious now, that change is a major aspect of adolescence. Adolescent stage is a very critical stage that involves a dramatic change in family relationship and involvement. At this period, families move from patterns of influence and asymmetrical interaction toward establishing equilibrium and less hierarchical relationships (Steinberg, 2008). This stage involves adolescents' cognitive development which increases their sense of self-efficacy as well as their ability to make decisions and to understand how academic achievement and extracurricular activities

help them achieve their goals and aspirations; as a result, they need less direct parental involvement (Hill & Tyson, 2009).

In adolescence, direct parental involvement strategies, such as school-based involvement and direct homework assistance, might be less needed and thus are less effective (Seginer, 2006). As earlier stated, although adolescents gain autonomy (Eccles & Harold, 1996; Spera, 2005) and become less willing to have their parents visit school (Stevenson & Baker, 1987), parental academic involvement remains an important predictor of school outcomes throughout adolescence. In other words, parental involvement during middle school is positively related to academic achievement because some parents implement academic involvement strategies. In a recent meta-analysis, Hill and Tyson (2009) identified parental involvement strategies that have the strongest positive relation with the academic achievement of middle school students. Such parental involvement creates an understanding about the purposes, goals, and meaning of academic achievement and provides strategies that students can effectively use. Furthermore, Hill et al. (2004) showed that although parental involvement is associated with adolescents' academic achievement and future aspirations across the middle and high school years, parents' strategies change. Parents specifically shift to creating alternative communication channels which may involve low monitoring as a correlate of risk behaviours, delinquency, substance use, teenage pregnancy (Cottrell et al., 2007), and lower grades. In this study, parent–adolescent communication and monitoring indicate home-based involvement, and school contact (through interaction with the school) indicates school-based involvement.

2.22.2 Transition Phase and Learners' academic achievement

Globally, children's transition from one school stage to another is a common occurrence except for difference in school system structure and transition intervals. According to Smith, Akos, Lim, and Wiley, (2008), transition to high school is at the completion of the 8th year of primary school, and after the completion of 6th year of primary in the United Kingdom. In South Africa, transition from primary school to the high school is at the end of the 7th year (grade 7). This is around the age of 13 to 14 year where learners get into grade 8. The difference in age however could be because of child's peculiar context where issues like school readiness, curriculum adoption and home schooling programs may play a role. Transition according to Smith et al (2008) is defined as a process during which institutional and social factors influence the movement between organisations. In his view, Hanewald (2013), states that transition is both a challenging and exciting period of change and that it is characterized by an adjustment of roles, expectations, identities,

new relationships and new interactions both for children and their parents. Smith et al (2008), submits that transition from primary to high school is 'a social and academic turning point for adolescents. Hence, Terhoeven (2009) described transition to high school as a critical stage that is always experienced as the most challenging educational careers. Furthermore, study states that children's academic performance and their general sense of well-being can be affected by the transition (Brewin & Statham, 2011). This view was supported by (Soares, Lemos & Amerda, 2005) which stated that both the children's cognitive and emotional development can be affected a great deal because of the same time of occurrence of transition phase to high school with the developmental transition to adolescence. In addition, Gregory (2009), says that the transition to high school, coinciding with adolescence can be a particularly challenging time for many learners.

2.22.3 Transition Change

Transition period is identified with numerous individual and environmental changes and it is always described as a stressful time for both students and their parents, more so at the time when there is need for special education needs (Maras & Aveling, 2006). The study added the likely changes that both the children and their parents may encounter, such as structural changes of teaching (from individual to groups), various patterns of discipline, authority, classroom management, and teaching styles have been employed. Others are increased complexity of the high school building, and the possibility of bullying or losing friends. In the view of Andrews and Bishop (2012), monitoring the highlighted likely changes is vital in the sense that children may struggle with them to the extent that they unlearn specific academic skills and content or worst still, start a downward spiral leading to school dropout. Studies indicate numerous likely negative effects of anxiety known with the transition to high school, such as, effect on the child's self-concept, children experiencing anxiety and depression, negative effects on school performance and the increased likelihood of bullying and aggression linked to social changes (Qualter, Whiteley, Hutchinson, & Pope, 2007; Ashton, 2008). Parent's perspectives may be influenced by those changes too, this is in tune to Hoover –Dempey and Sandler (2005) model of parental involvement that refers to parents' perceptions of the school and the child's invitation for involvement.

2.22.4 Learner's Perspectives of Transition

Moving from primary school to high school for adolescents is full of mixed feeling of apprehension and eagerness (Andrews & Bishop, 2012). Studies note that, as much as they are happy about their progress in their school careers, they are also concerns about getting to meet new teachers, being bullied or harassed, being a member of school clubs, the type and volume of homework, the difficulty of school work (Smith et al,2008), loss of old friends, challenge of making new friends (Qualter et al, 2007),getting lost in the school building, fear of meeting others pressure from peers, and how to cope with change of school subjects (Andrews & Bishop 2012). However, the transition experience of each adolescent is not the same (Brewin & Statham 2011). To some, this is great task while it is not to others (Benner, 2011). Research indicates that girls seem to have more concerns of transition to high school (Rice Frederickson & Seynour, 2011). However, effective management of transition by an individual adolescent is vital because of its lasting effects. The Study added that, some of these worries are short lived often after their first term in the school (Rice et al., 2011). He added that worrying behaviour is not strange but should not be for a long period. In the view of Martinez, Aricak, Graves, PetersMysznez, and Nellis (2011), at this time, adolescents' needs social support and that it is of utmost importance because of this period is known with fast changes, expectation, and a possible emotional 'rollercoaster' ride. Furthermore, helping adolescents to learn how to cope appropriately and have realistic expectations of high school will go a long way and last long too (Qualter et al,2007; Ashton, 2008). However, Brewin & Stathan (2011), stressed the need for more than one transition intervention because of peculiar context of each individual adolescent.

2.22.5 Parental involvement and learners' academic achievement in the Transition stage

According to Smith et al (2008), there seems to be few studies done on expectations of parents about their children's transition to high school, but there are many studies that stressed the vital role parents play as their contribution to the transition process. Hence, Mares and Aveling (2006), says that there is need to support parents specifically during the transition period in order to increase parents' efforts and their positive involvement in their children, resulting in positive motivation for their children for performance.

This view is supported by Andrews and Bishop (2012), which stated that 'parents who are involved in their children's transition to high school are more likely to remain involved in

the children's school experience and such involvement is linked with to heightened learners' achievement. From the suggested guidelines for successful transition to high school compiled by The Education Partnership Inc., it was said that supporting parents will give them opportunities to become increasingly involved, and implementing transition programs will address the needs of both parents as well as the students. EPI, (n.d) and Terhoeren (2009) added that it will not only support parents, but as well strengthen peer and family relationships, leading to decrease in likelihood of early school drop out in high school. Attanncci (1993), opined that, it is possible to exclude and underrate parents when it comes to the issue of adolescence, such as transition to high school, while another study argued that parents should be given a voice in this matter, to show that their thought and suggestions on children's parents and that of the community's needs could be of high importance (Wasley, 1993). Benner (2011) also added that parents are children's most helpful structures during the period of transition to high school. According to Kranse and Harvekamp (1990), parents' roles and their involvement are described as vital throughout life, hence, should be clearly and highly regarded during this important developmental phase of transition and from primary to high school. Hence, such important matter as transition should not be left to chance. Wormeli (2011:8) cited in Andrew & Bishop, (2012).

2.22.6 Teachers' Perspectives of Transition

In the transition period, children, parents and teachers has vital role to play respectively. Differences, expectations, concerns and roles without doubts affect learners' experience of transition, and other related areas of such parental involvement. Transition from primary school to high school is not all about children and parents. Hence, teachers' role should not be underestimated in this significant period (Lemmer, 2000). In the view of Smith et al (2008), teachers are often concerns about the social issues that children might have encountered, such as fitting in and making friends. Teachers may not be as familiar to learners as their parents but their support is likewise respected by children as equally motivates s as their parents' support (Bru.Stornes, Munthe, & Thuen, 2010). Increase in children's age, their perception changes, and the value they find from teachers' support reduces. Developmental changes experience of children is responsible for this notion (Bru et al 2010). The importance of the role of teachers in the transition calls for clear and awareness of the likely differences between teachers and parents (in practices and misunderstandings) (Bower & Griffin 2011). In view of this, training of teachers in the concept of parental involvement is highly essential (Lemmer 2007). Teachers can help

to remove the stigma associated with the idea that parents are only involved in fund raising and in school governance (Lemmer, 2000). Furthermore, in the process of transition to high school, teachers input and valuable contributions to complete parental involvement should be considered as a prerequisite for improving the culture of teaching and learning in school (Lemmer & Van Wyk, 2004) However, in the process of the transition, various respective, concerns and approaches thereof by children, parents and teachers, as well as transition in relation to parental involvement added to justify the rationale behind this study on relationship between parental involvements and grade 8 learners Mathematics academic achievement.

2.23 Chapter summary

In this chapter, literature on factors related to parental involvement were discussed. The literature study revealed that parenting, home structure, parental educational background, parenting styles parental expectations and communication are important and critical to learners' Mathematics achievement. Drawing from the literature discussed in this chapter, it can be concluded that parental involvement is in actual fact vital in the academic achievement of learners. The next chapter describes the methods and procedures that were followed in collecting data.

CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

The previous chapter dealt with the literature review and theoretical framework that underpinned the study. This chapter outlines and explains the methodological processes and research methods that were used in generating the data that would answer research questions. The aim of the study was to investigate the relationship between parental involvement and grade 8 learner's Mathematics achievement in the District of East London, South Africa.

3.1 Research Methodology

Research methodology according to Litchman (2013) is the practices used to attain knowledge of reality while other scholars such as, Creswell (2014); Okeke, Adu, Drake & Duku (2014) define it as the way a researcher choose to carry out the process of data collection, analysis, and interpretation for a particular research study. According to Sharp (2013), research methodology involves the procedures for data gathering while methodology describes the approaches, kinds and paradigms of research. Creswell & Piano-Clark (2007:4), view research methodology as a philosophical framework and the fundamental assumptions of research. Thus it can be defined as a framework that relates to the entire process of research. In other words, research methodology helps to understand the real process of scientific inquiry and not the products.

Studies have classified research methodologies in many different ways. For example, some differentiate between qualitative and quantitative, experimental and non-experimental, research conducted in the laboratories versus in the field and so on (Bryman 2012; Sharp 2013). However, such categorizations mostly overlay, for instance qualitative components could be included in an experimental study while a non-experimental study can be of qualitative or quantitative nature. In the view of Thomson, Petty, Ramage and Moore (2011). Qualitative research: exploring the multiple (2011), the nature of the inquiry or questions which the researcher sought to find out determines the choice of the research methodology. For example, if the question seeks to find how many or what proportion, then answers are better sought through quantitative methods;

but if the question is to know why certain things happens, qualitative inquiry is the best option so as to get a contextualized and deep understanding of the phenomena as experienced by the individual or group under study.

Therefore, this chapter describes and justifies the research methodology employed in the study. The following aspects of the research methodology are defined and justified: the paradigm; the research approach (quantitative and qualitative) and the research design. Again, the chapter delineates the following methodological aspects: the population; the sample; sampling design and procedure; data collection instrument; use of open-ended questions in the questionnaire and data collection procedures; and data generation and analysis.

Methodology in research can best be described using research onion developed by Saunders et.al (2007). It gives appropriate picture of the effective transition and progression within which a research method can be planned and designed. Bryman (2012) asserts that the importance of research onion cannot be over-emphasized. It is quite adaptable and applicable to a variety of research contexts. There are six layers in this research onion with specific research themes. In this section, each of these layers will be explained in terms of their adaptability and applicability to this study.

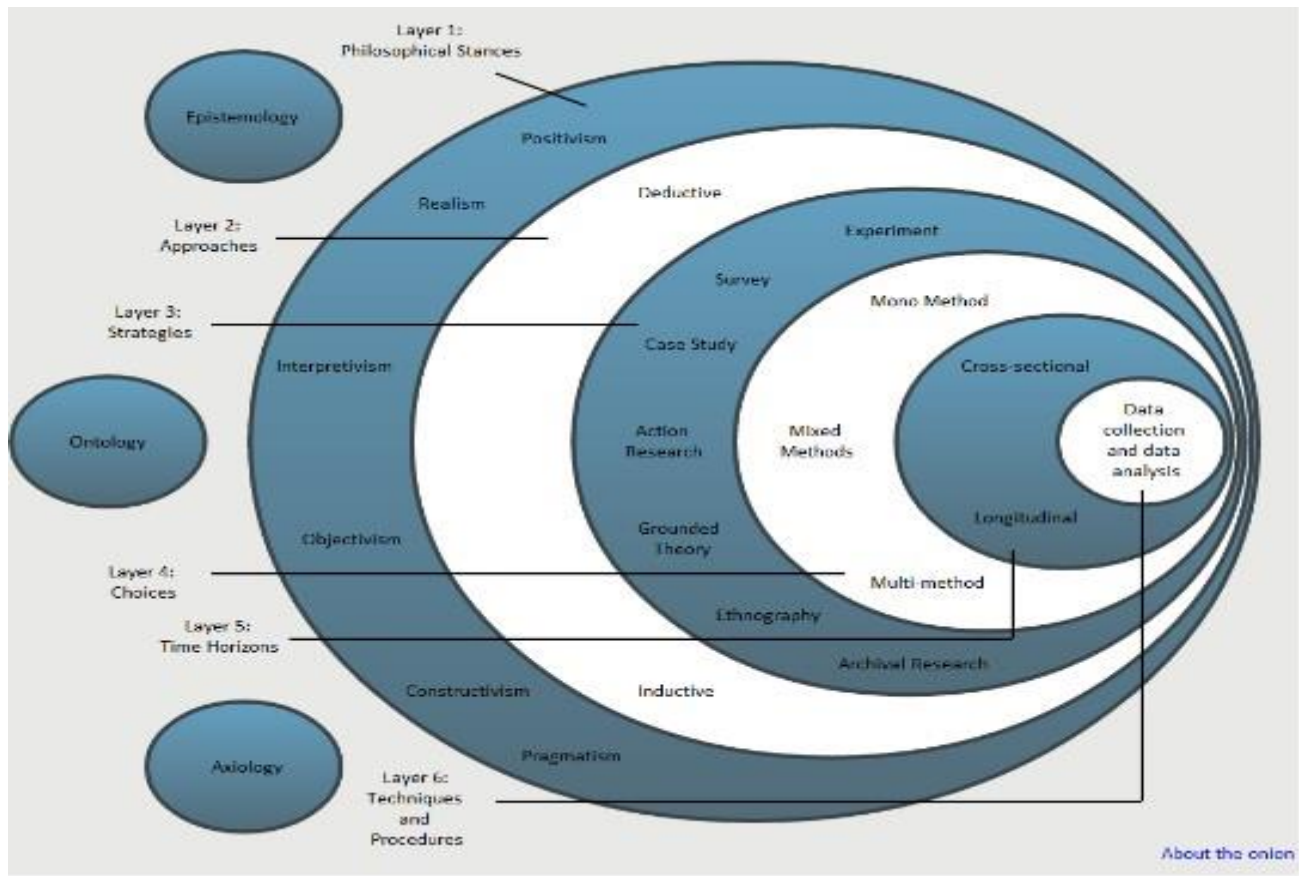


FIGURE 3.1: RESEARCH ONION

Source: Saunders et.al (2007)

Unwrapping the onion, to conduct a research, the study is systematically grouped according to the dimensions, such as the philosophy, the approach, choice of data and strategy to be used in the study. Different terms have been used by different researchers in describing these dimensions. While some called it research paradigm (Lincoln, Lynham, & Guba, 2011; Mertens, 2010), others called it philosophy (Saunders, Lewis & Thornhill, 2009), or worldview (Creswell 2009; 2014) and according to (Neuman, 2001), broadly as research methodologies

Worldviews Philosophy

In the choice of research approach and methods to adopt in carrying out research study, the philosophical worldview of the researcher has a great impact. This is about how researchers' view the world or assumptions about human knowledge or nature of realities. How researcher's view the world or realities determine the questions he asked and research design he would choose. What constitutes an acceptable knowledge about

realities? Specifically, this layer contains philosophical underpinning of research (Saunders, Lewis & Thornhill, 2009). Put it differently, research philosophy deals with the ontology and epistemology of research. While ontology is the nature of the reality or phenomena; epistemology is the knowledge about the reality or phenomena. There are three sides of ontology. These are: (i) Objectivism; (ii) constructivism; and (iii) realism.

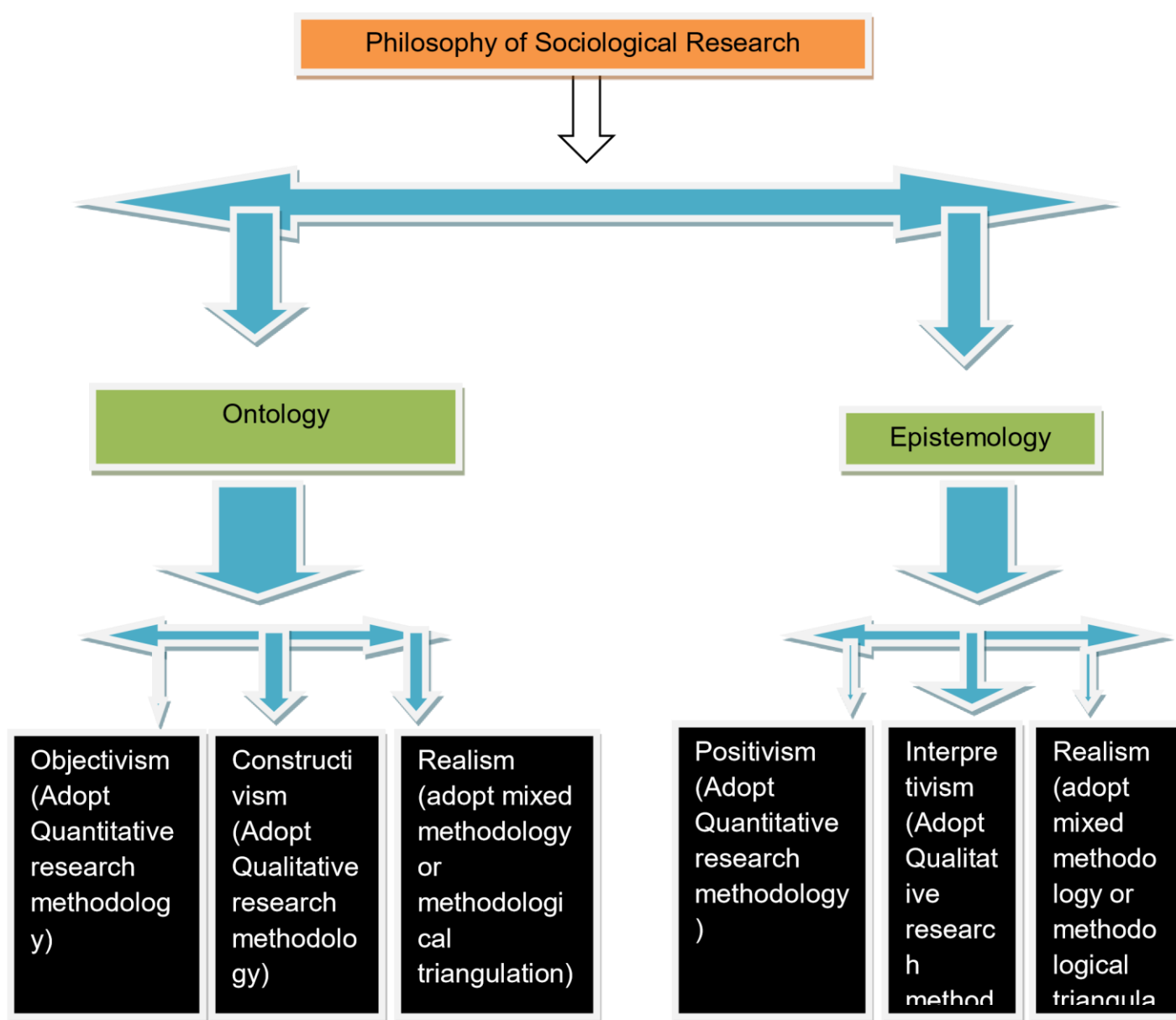


FIGURE 3.2: Philosophy of Research

Source: Author's conception

Research Philosophy: This is about how researchers' view the world or assumptions about human knowledge or nature of realities. How researcher's view the world or realities determine the questions he asked and research design he would choose. What constitutes an acceptable knowledge about realities? Specifically, this layer contains philosophical underpinning of research (Saunders, Lewis & Thornhill, 2009). Put it differently, research philosophy deals with the ontology and epistemology of research. While ontology is the nature of the reality or phenomena; epistemology is the knowledge about the reality or phenomena. There are three sides of ontology. These are: (i) Objectivism; (ii) constructivism; and (iii) realism

Objectivism means that reality or phenomenon and their meanings exist outside social actors. In sociological research, this implies that social phenomena are real and exist out there.

Subjectivism means that phenomena or realities are constructed by actors. In sociological research, this means that laws, norms, values and other social phenomena are created and recreated by social actors within social groups.

Lastly, **realism** is somewhat similar to objectivism in that both ontological approaches believe that social actors are independent of the phenomena under study. Thus, the possibility of biases occurring is extremely limited. However, where they differ is that realists doubt the authenticity and accuracy of scientific methods. To realist, scientific methods are not as perfect as they think they are. Therefore, in order to arrive at the valid knowledge about reality, we have to continue researching and open our minds to new methods of research. Based on this orientation, realists are more likely to combine several research methods in order to arrive at a more valid and reliable research outcome.

Just like ontology, epistemology also has three faces. These are: (i) Positivism; (ii) Interpretivism; and (iii) Pragmatism.

Positivism is based on the idea that phenomena are real and independent of the actors or researcher. Consequently, knowledge about phenomena can be derived or obtained in the same way the natural scientists study physical objects. It follows the tradition of ontological objectivism, which states that phenomena are real and exist out there.

Interpretivism is based on the idea that phenomena are constructed and created by social actors. Thus, knowledge about phenomena can be obtained through the use of humanistic methods that would allow us to uncover the ways social actors created or

constructed given phenomena, and the meanings they attached to such phenomena. This philosophical approach follows the tradition of ontological **constructivism**, which states that social phenomena are created and constructed by social actors (Saunders, Lewis & Thornhill, 2009).

Pragmatism views that both positivism and Interpretivism are valid approach to research. The implication of this research philosophy in sociological research is that epistemological positivists are more likely to adopt quantitative research methodology; epistemological interpretivists are more likely to adopt qualitative research methodology; while epistemological pragmatists are more likely to apply mixed methodology or methodological triangulation in their studies (Saunders, Lewis & Thornhill, 2009).

3.2 Research Paradigms

Research paradigms have a philosophical underpinning and orient the researchers' point of view on the reality as given by nature or constructed by human agency. Research paradigms represent a crucial element in the research project as they influence both the strategy and the way the researchers construct and interpret the meaning of the reality depending on the research. Samuel (2012) citing Bryman (2008), described research paradigm as clusters of beliefs that determine what to be studied, how to go about the study, and how to interpret the results of the study while Creswell (2014) simply described paradigm as a world view or basic belief system that directs an investigation. It has also been defined as a way of examining social phenomena to generate fresh insights into their real life issues and problems (Saunders, et al, 2009:121). This means a way of trying to understand and explain a social phenomenon of interest by the researcher. According to Burrell and Morgan (1979) cited in Saunders, et al (2009), purposes of paradigm are as follows:

- assisting researchers in the clarification of their assumptions on their view of the nature of science and society;
- suggesting useful way of understanding how other researchers approach their work
- helping researchers in strategizing their own direction through their research; to understand the possible way to go and where they are actually going.

Paradigm can either be positivist, which is scientific in nature (objective) or phenomenologist, that is, constructivist in nature (subjective). Types of paradigms are:

3.2.1 Interpretive Paradigm

In relation to the interpretive paradigm, Merriam (2009) state that, the nature of reality (ontology) is seen as being socially constructed by each individual, while no single observable or objective reality exists, but rather multiple interpretations and realities of single events. About the nature of scientific knowledge (epistemology), the interpretive paradigm requires multiple realities in order to produce the required knowledge. Studies refers to the subjective nature of reality which only exists in questioning reality and in the different meanings or interpretations people make around happenings in their lives (Maree, 2007). Henning, Van Rensburg, and Smit, (2004) and Maree (2007) says that the contexts in which the participants exist and wherein they create their realities are of similar importance, as they help determine how their realities are shaped, then one can say that in creating knowledge through research within the interpretive paradigm, the value is thus placed in the interaction between research participants and the researcher. Interpretive paradigm according to Neiwenhuis (2007) views the world as having multiple realities which can be observed through detailed information by those who inhabit the setting.

The interpretive paradigm is highly subjective in nature, and it has limitations in that human bias can never be underestimated. In addition, Maree (2007) says the interpretive paradigm stresses the connections of people as individuals, who form a social order among themselves in their everyday life and create routines. The interpretive paradigm is anti-positivist in nature. According to Cohen, Manion and Morrison (2007) the central endeavour of the interpretive paradigm are to understand the subjective world of human experience. Interpretivism is characterized by seeing the social world from a highly subjective viewpoint of the actors in the context. An interpretive paradigm is an approach to qualitative research and it emanated from the assumption that individual seek understanding of the world in which they live and work (Creswell, 2013).

Individuals develop subjective meanings of their experiences, directed towards certain object or thing. These meanings are varied and multiple, leading the researcher to look for the complexity of views rather than narrowing meanings into a few categories or ideas. Subjective meanings are negotiated socially and historically; they are not simply imprinted on individuals but are formed through interaction with others and through historical and cultural norms that operate in individual lives (Creswell, 2014). In the view of Creswell (2003:9), an interpretive/ constructivist researcher tends to depend on 'the

participant' views of the situation under study and recognises the impact on the research of their own background and experiences. As a result of this, they generate or inductively develop a theory or pattern of meanings throughout the research process.

Interpretivism is a branch of epistemology that advocates for the necessity of the researcher to understand the differences between humans in their roles as social actors. The human beings, as social actors, interpret everyday social roles according to their own set of meanings, their opinion, with the possibility of different interpretations. Thus, the subjectivist ontological perspective is adopted here. The researcher however, has to adopt an empathetic stand, entering the social world of the research subjects and understanding their world only from their point of view. The emphasis here is not on rationality, but the way human beings attempt to make sense of the world around them. The concern here may be discovering irrationalities, trying to understand and explain what is going on within the phenomenon of study. The interpretive paradigm assumes "emergent, multiple realities; indeterminacy; facts and values as linked; truth as provisional; and social life as processual" (Thomson et al, 2011:117). It places concern on the individual; to understand the world from the viewpoint of the individual, resisting the imposition of external form structure as found in normative paradigm.

3.2.2 Functionalist paradigm

According to Saunders et al. (2009), this paradigm falls in the objectivism ontological position and is mostly problem-oriented in approach, aiming at providing practical solutions to practical problems. In functionalist paradigm, emphasis is on rationality; taking the assumption that organisations are rational entities, therefore, rational explanations should offer solutions to rational problems.

3.2.3 Phenomenology

Arguing against positivism, phenomenologists are of the view that Social Science has to do with action and behaviour that are generated from the human mind; and to understand the world, it must be from peoples' point of view (Samuel, 2012). They argue that the reality or object and the researcher cannot be separated, that there is no reality that is independent of the mind. Thus, the understanding of a phenomenon or reality should be from the participant's point of view, for reality is as we see it, our interpretations of the world. Phenomenology lays emphasis on meaning instead of measurement, thereby giving considerable regards to the subjective state of the individual. With the phenomenological approach of study, what is researched can be affected by the process of the research. Phenomenological qualitative approach sought understanding of the

nature or meaning of every-day lived experiences. In-depth interview may be used for data collection in order to get the life-world of the interviewee with respect to interpreting the meaning of the described phenomenon that is, seeing through the eyes of the interviewee.

3.2.4 Axiological Assumption

Axiology has been defined as the role and place of the researcher's personal values and ethics in the research process (Mouton, 2010). The beliefs and values of the researcher should be made explicit in order to help respondents and readers to know the context in which the research was conducted (Mouton, 2010). Additionally, it is vital that a researcher present him or herself in a transparent and fair manner. The, researcher should establish rapport with the research respondents, conducting the research ethically, and representing the respondents' value systems and at the same time making an effort to interpret findings professionally (Babbie, 2013). While positivism takes the research as being value free, with the researcher being detached from the research and the study regarded as an object, the Phenomenologists maintain that researchers should be involved in what is being researched since they have values, and their (researchers) values would help in the determination and interpretation of what are recognised as facts.

3.2.5 Realism

A realist is of the view that what research does is to uncover an existing reality. To the realists, 'The truth is out there' and it is the job of the researcher to use objective research methods to uncover that truth. Realism could be defined as the manner in which each researcher has assumption or beliefs about nature or reality. Realism is a branch of epistemological position that relates to scientific enquiry. The principle of realism is that objects have existence that are independent of the human mind; and whatever the senses show us as reality, is the truth. It is unlike idealism, the theory that postulates that only the mind and its contents exist; but it is similar to positivism for it adopts a scientific approach to the development of knowledge which underpins the collection of data and the understanding of those data gathered (Saunders et al, 2009:114).

There are two types of realism:

- ❖ **Direct realism**, which says that the world is accurately portrayed through what we experience by our senses, that is, what we see is what we get. The direct realist will argue that what we call illusions is actually based on our lack of sufficient information.

- ❖ The second type is the **Critical realism** which says that what we experience are only sensations, images of the real world, and not the real things directly because we are often deceived by our senses. The critical realists are of the opinion that as researchers, we can understand what goes on in the social world only if we understand the social structures that gave rise to the phenomena that we are trying to understand, that is, we are only seeing a part of the bigger picture (Saunders et al, 2009:114).

3.2.6 Positivism

Saunders et al (2009) describe positivism as the philosophical stance of the natural scientists that prefer working with observable social realities and the end product can be law-like generalisations related to those in the physical and natural sciences. Positivism approach seeks research based on facts and logical reasoning with the assumption that reality is independent of the researcher (thus the research is seen as been undertaking in a value-free way), in order to bring about precision, objectivity and rigour while carrying out the study. It is anchored on the view that the world is hemmed in certain fixed laws or theories that forms the basis of occurrence or explanation of certain phenomena. With the positivism approach, the researcher will first develop hypothesis (hypotheses) from an existing theory or law, then the hypotheses are tested to either be confirmed or refuted for further development of theory, using a highly structured research design. Positivist researchers believe that reality could be observed and described from an objective point of view; that by observing the world from a neutral and objective viewpoint, general relationship and universal laws could be discovered which could be used in deriving theories and then get tested. Meanwhile, these observations have to be repeatable.

The positivist view of knowledge is usually taken in quantitative research with the assumption that there is a knowable, single objective reality, which can be verified through experimental studies. Such studies are mostly heavily controlled, include a large number of subjects (Nicholls, 2009), aims at testing hypothesis from existing theories and data are collected on pre-determined instruments which are then quantified and statistically analysed (Thomson et al, 2011). It has however been argued that it is impossible for a research to be completely free from the inclusion of the researcher's bias, for even the decision to adopt a likely value free perspective is a suggestion of the existence of a certain value position.

The researcher will exercise choice in the issue to study, the research objectives to pursue and the data to collect. It was therefore vital for the researcher to adopt positivist paradigm as it serves as a guide to the researcher in detecting the variables that can mostly affect learners' academic achievement in Mathematics. This study is within positivism paradigm and the nature of the problem being investigated influence the choice of paradigm. Positivism was preferred in this study because methods associated with this paradigm include experiments and surveys where quantitative data is the norm (Mack, 2010). Significantly, the essence of the research study in this paradigm is to prove or disprove a hypothesis and that the characteristics of a positivist research include an emphasis on scientific method, statistical analysis, and generalizable findings.

3.3 Research Approach

Creswell (2014) defines research approach as all the plans and procedures involved in carrying out research, covering all the details from the broad philosophical assumptions to the research designs, methods of data collection, analysis, and interpretation. He based the criteria for choosing a research approach on the researchers' personal training and experiences; the researchers' philosophical assumptions (worldview); the procedures of inquiry (research design); research methods of data collection, analysis, and interpretation; nature of the research problems; and the audience (s) that will make use of the research report (Creswell, 2014:3). The three approaches to research are:

3.3.1 Qualitative Research Approach

Qualitative Research Approach is related to the interpretivist and constructivist philosophies. Qualitative research approaches align with rationalism and it regards social reality as constantly shifting based on individuals' creation and deductive interpretation of the phenomenon (Bryman, 2004:19). Interpretivist researchers adopt a subjective view during data collection and in data analysis, and the researcher is also a key instrument in the data collection (Denscombe, 2002; Denzin & Lincoln, 2005). In qualitative research, the researcher therefore goes to the natural setting to collect data and employ subjective judgments of the phenomenon. Creswell (2007) explain that qualitative researchers value participants' words, and reports based on participants' perspectives on experiences, values and assumptions. It means that interpretation of the same phenomenon may differ from one context to another in spite of using the same research instruments (Babbie, 2010). In qualitative studies, the strategies or research designs used include ethnographies, case studies and phenomenological research. Hence, the

research findings are unique to that particular context and thus may not be replicated. Qualitative data mainly comprise detailed verbatim transcriptions of interviews and discussions, extracts from documents or artefacts. In the view of Mpofu (2010) citing Ryan (2006), qualitative research is appropriate when participants cannot give precise answers to the questions, when the research aims to explicate aspects of people's everyday values, words and perspectives of their experiences. According to Bryan (2004:75), the data is analysed through clustering of themes from the thick descriptions, and that credibility and trustworthiness of the data are ensured through triangulation of research instruments and data. Triangulation is defined as a process of confirming evidence gathered through different data collection methods in an attempt to get a true fix on the situation (Denzin & Lincoln, 2005; Silverman, 2010).

3.3.2 Criticism of Qualitative Research Approach

Creswell (2009) states that, relativism is one of the major criticism of qualitative research. The fact that, there are multiple perspectives of the same phenomenon; it is difficult to come up with well-defined and valid accounts of the same phenomena. Again, qualitative research methodologies based on Interpretivism are criticized for being based on idiosyncratic conclusions, making them ungeneralizable to other contexts (Babbie & Mouton, 2005; Denzin & Lincoln, 2005). In addition, the subjectivity of the researcher also allows for a lot of bias and therefore the validity of the data is also questioned (Babbie, 2010). The fact that both quantitative and qualitative paradigms have their own strengths and weaknesses, a combination of these two methods cancels biases inherent in any single method while taking advantage of the strengths from each of the methods.

3.3.4 Quantitative Research Approach

Quantitative research is defined as the numerical representation and manipulation of observations for the purpose of describing and explaining the phenomena that those observations reflect (Johnson & Christensen, 2008). Quantitative research is used in a wide variety of natural and social sciences, including physics, biology, psychology, sociology and geology. Cohen (1980) defined it as social research that employs empirical methods and empirical statements. Typically, empirical statements are expressed in numerical terms and empirical evaluations are applied also. Empirical evaluations are defined as a form that seeks to determine the degree to which a specific program or policy empirically fulfils or does not fulfil a particular standard or norm. Quantitative research is

simply a type of research that is `explaining phenomena by collecting numerical data that are analysed using mathematically based methods (in particular statistics) (Creswell, 1994).

Quantitative approach originated from the traditional, experimental and positivist paradigm where there is emphasis on empiricism. This approach views social reality as external, static and value neutral to the researcher. Hence, scientific models are used when investigating social phenomenon (Mertens, 2010). These approaches assume social and natural sciences phenomenon can be investigated the same way. Therefore, the phenomenon to be studied must have an operational definition. In addition, relationships between various dependents and independent variables in a phenomenon must be predetermined. This approach is mainly concerned with control, description, prediction, and test of phenomena (Leedy & Omroid, 2005:94). According to Bryman (2012), quantitative researchers therefore value use of standard procedures, objectivity, validity, reliability, prediction, causality, and generalisation.

According to Bryman (2012), the use of standard procedures ensures that the same measure is used across contexts and objectivity ensures that the researcher has minimal or no influence on the data and is achieved through use of scientific and standard measurements across the population, while reliability is concerned with ensuring that similar results are produced if the research is applied to a population with the same characteristics. He further added that Quantitative researchers ensure reliability of data through pilot testing and that pilot testing selects a small section of the population in order to assess suitability of the research methodology, sampling techniques, research instruments and data analysis techniques. In quantitative research, reliability is ensured through triangulation of research instruments and data. That means that various research instruments and sources are used to collect data to minimise the weaknesses on one instrument (Bryan, 2004:75). In quantitative research, the data gathered is collected on a wide population and there is minimal opportunity to verify the data. The strategies used to gather the data can be experiments, quasi experiments or surveys (Morgan, 2007), and measured numerically and analysed using statistical models (Bryman, 2004).

In this quantitative cross-sectional survey approach, this study used data collected at one point in time to address the research questions. The researcher sought to find out the relationship between parental involvement and grade 8 learners' academic achievement in Mathematics. The researcher exploited objectivity and curtailed her involvement with

the respondents during the development of the study. All these are influenced by the principles of the positivist paradigm as indicated in the section above. The researcher was aware of the fact that she is part of the world and that she poses a challenge in detaching herself from the research (Morgan,2007). Statistical analysis permits the researcher to discover the differences and to determine to what extent one variable influences another. The research results are relatively independent of the researcher as statistical significance is considered in the data-analysis section of chapter four (Bryman,2004).

According to Harwell (2011), quantitative methods are frequently described as deductive in nature, in the sense that inferences from tests of statistical hypothesis lead to general inferences about characteristics of a population. The researcher decided to adopt this type of research approach in a bid to jettison bias from the study. This approach allowed the researcher to formulate the propositions that supported her to speculate the outcomes before execution. This is a study that entails systematic data collection and analysis as its focus is on academic achievement which can be generalized for further research with increase in sample size. Based on the underlying factors related to the hypotheses, quantitative approach was found to be relevant to this particular study. Historically, the use of the true experiments has contributed greatly to the universal knowledge now acquired. The quantitative methods produce legitimate scientific answers, through which hard data will be generated and changes takes place (Melia, 1982). Qualitative approach produces soft data which have been described by some as being inadequate in providing answers and generating any changes (Cormack, 1991). The research approach used in quantitative research includes, correlational, quasi-experimental, and experimental.

3.3.4.1 Criticisms of Quantitative Approaches

A lot of criticisms have been recorded about quantitative approaches from post positivists or interpretivists' advocates. They have disagreed over the positivist stance of employing a scientific method when investigating social phenomenon and argue that quantitative researchers ignore the differences between the natural and social world (Denscombe, 2002; Muijs, 2004). It is criticized for its structured nature which impedes opportunities for considering unique cases, and some of its critics also argue that social research which involves human beings can never be treated the same way as objects. Muijis (2004) argues that, findings in social research are influenced by the beliefs of the people doing research as well as the political and social climate at the time the research is done. In line with this, there are doubts against the positivist idea that reality out there can be

measured objectively in social research since researchers are all part of the world they are observing, and cannot detach themselves completely. Lastly, post-positivistic and interpretivist philosophers accept the belief that the researcher has to interact with the phenomenon under study.

3.3.5 Mixed Method Research Approach

According to Creswell (2014), mixed methods approach combines and integrates the philosophical assumptions and approaches of both quantitative and qualitative forms in a study, using distinct designs that may involve philosophical assumptions and theoretical frameworks. Mixed method is a type of approach that involves collecting and analysing both the quantitative and qualitative data to increase the overall strength of the study. This combined strength makes the mixed method approach to be greater than either quantitative or qualitative research (Samuel, 2012) and will help in delivering a more complete understanding of a research problem than either approach only. Basically, mixed method approach is commonly used by researchers that have the time and resources, and enjoy the combination of the structure of quantitative research with the flexibility of qualitative inquiry.

3.4 Research Design

Terre et al. (2007) described a research design “as a strategic framework for action that serves as a bridge between research questions and implementation of research questions” Research design comprises the data collection and analysis, and interpretations of the results (Johnson & Christensen, 2008). Maree (2010) emphasises that the design takes into account philosophical assumptions underpinning the selection of respondents, the data gathering techniques to be used and the data analysis procedure to be done.

Research design, known also as strategies of inquiry as described by Denzin & Lincoln (2011), Hinkelmann and Witschel (n.d.), is the plan and procedure to be followed in carrying out research as a result of the researcher’s broad assumptions, personal experiences, the nature of the research problem or issue to be studied and the methods of data collection and analysis to be employed. In addition, Yin (2011) defined research designs as logical blueprints which involves the links among the research questions, data collection and strategies for data analysis and this logic helps in reinforcing the validity and accuracy of the study and ensures that the research topic being studied is properly addressed by the data to be collected. Also, Creswell (2014) stated that research designs

are the procedures of inquiry that provide specific direction in a research study, be it within the qualitative, quantitative, or mixed methods approaches.

Research design requires researchers to specify as clearly as possible what they want to find out and the best way to do it (Babbie, 2010). The research directs the planning and implementation of the study to achieve the intended goal. A research design describes the procedures for conducting the study, including when, from whom, and under what conditions the data will be obtained, analysed and reported (McMillan & Schumacher, 2010). According to Luck & Ruin (2009:78), a research design is the determination and statement of the general research approach or strategy adopted for the particular project. Evidently, what Luck & Ruin (2009:78) are postulating is that a research design would be expected to assist and provide in addition, with some planning of the research. Therefore, it could be inferred that if the research design adheres to the research objective(s), it therefore primarily ensures that the client's needs are served. Research design therefore includes; the justification of the study hypotheses or exploration of posed research questions, while presenting a detailed presentation of the research steps followed in collecting, choosing and analysing the data.

A good research design must reflect two important aspects;-one, specific processes and procedures of the research plan of action to conduct the study must be identified and developed; two, the specific design should be valid, accurate and sets out objectives to be achieved. Hence, Mafuwane (2012) described research design as a general plan of action and decisions of a researcher for a study or a strategic framework of action bridging the research questions and the execution or implementation of the research strategy. Some of the strategies or designs adopted by researchers while carrying out the research studies are: experiments, survey, action research, grounded theory, ethnography, case study and archival research amongst other.

3.4.1 Ethnography

Ethnography is a design that has to do with understanding of how groups of people sharing similar experiences like culture, social organisation and local perspectives, give meanings to everyday life experiences, 'see' or interpret life experiences. This can be done by either data collection through observing the participants in their natural settings or by focus group to get a detailed picture of the experience of the participants.

3.4.2 Grounded Theory

Grounded theory explores social processes; methods of data collection, it may include observations.

3.4.3 Discourse Analysis

This is a form of qualitative methodology that emphasises on the significance of language and communication (for example talk and text), and the use of language in creating and enacting identities and activities. Discourse analysts argue “language and words, as a system of signs, are in themselves essentially meaningless. According to Thomson et al (2011:121), it is through the shared, mutually agreed-on use of language that meaning is created.

3.4.4 Analytical Science

Analytical science (empirical) deals with understanding the general statements about reality, here, new results from the study can alter already existing theories. This type of study is usually carried out in the fields of natural sciences, Economics, Sociology and so on.

3.4.5 Design Experiments

This is design science (constructive). It has to do with designing of artificial constructs like concepts, and designs. Here, the researcher examines the effect of new concepts or designs (like new educational interventions in actual classrooms/ laboratories while the concepts or designs are being implemented. The intervention is continuously changed and re-evaluated as results are being obtained and analysed. Though already existing constructs will remain valid but the new concepts may now be given superiority. For example, newly developed software may show a significant increase in usability than the existing one. This is usually applied in the fields of Mathematics, Engineering (including computer science), and Humanities (languages, literature, law, arts).

3.4.6 Experimental Research

Experimental research involves randomly assigning participants to one of several treatments. The experiment will randomly conduct an assignment on either the experimental group (which receives some kind of treatment or carry out some activities) or the control group (which neither get the treatment nor carry out any activity) while tightly controlling every other variable. Any measurable differences between the two groups, sequel to a post-test experiment conducted on them that were not initially observed

before the conduct of the experiment will be concluded by the researcher to be the effect of the experimental manipulation. Anderman (2009) noted that this type of experiment is however difficult to conduct in actual educational settings (i.e. schools) for students can hardly be randomly assigned to conditions or classrooms in school settings, and it is even sometimes seen as being unethical to randomly assign students to settings.

3.4.7 Quasi-Experimental Research

Quasi-experimental research is the type that is often used in educational research but unlike in the experimental research, participants are not randomly assigned to groups. The researcher rather tries to control for differences between non-randomly assigned groups using different methods, such as the matching method, statistical control etc.

3.4.8 Action Research

Research of this type is mostly conducted to critically analyse the researcher's own practices in order to make changes based on the outcome of the research work. It is the type of research that is common among classroom teachers as a form of self appraisal to improve on their classroom interactions and bring about a better teaching and learning outcome Creswell (2009).

3.4.9 Case Studies

According to Creswell (2014), case studies can be described as qualitative designs of inquiry used by researchers to develop an in-depth analysis of a case, program, event or process, with the case(s) being confined by time and activity and the researchers using a variety of data collection procedures to get detailed information over a continual period of time. This strategy is identified with interpretivist, inductive, empirical, qualitative research using the interviews, discussions, observations or questionnaires techniques. Similarly, Hinkelmann & Witschel (2013) submitted that case study approach is used when conducting an empirical investigation of a particular contemporary phenomenon within its real life context that has multiple factors, descriptive and contextual interactions in order to gain a rich understanding of the context of the research and the processes being enacted. The procedure for carrying out the study involves first selecting the instance or occurrence to study, and then followed by data collection using any of the techniques. The data collected is then analysed and interpreted in a systematic way to understand the reasons for characteristics of the instance.

Critiques of case study however argued that single case studies, by their nature, do not meet the requirement of 'generality' defined for research. Therefore, in using this strategy, there will be need to either carry out multiple case studies for generalizable results (it can be part of maybe a survey study) or to identify characteristics that justify generalisations (Hinkelmann & Witschel, 2013).

3.4.10 Correlational Research

Correlational Research is a type of quantitative research that study relations between and among variables. The cause and effect relations of the research cannot be determined for the researchers do not manipulate the variables because data on the existing variables are only collected to examine the relations among them. An example of such research is an examination of the statistical relations between preage school students' performance in singing and the students' ethnicity.

This study employed a correlational research design, using quantitative survey design of Likert scaled survey to generate the data used in the analysis. A Likert scale of Agree, Strongly Agree, Disagree, and Strongly Disagree was designed for this study. The use of correlational design was appropriate, for this study because it sought to investigate relationship between and among variables. Burke & Christensen (2008: 257) noted that non-experimental research is suitable for educational inquiries "educational research problems do not lend themselves to experimentation".

3.4.11 Method

Quantitative research encompasses a range of methods concerned with the systematic investigation of social phenomena. The quantitative research involves measurement and assumes that the phenomena under study can be measured. It sets out to analyse data for trends and relationships and to verify the measurements made (Watson, 2015). Quantitative method was used to collect data using survey questionnaires. And it collects numerical data in response to the research questions. Therefore, this method of research includes; research method, design, population, sample, and sampling instrument, data collection and analysis methods. These methods allowed the researcher to gain attentiveness of people' attitude, value system and concerns about the topic. The methods focused on real-world situations of parental involvement and the academic achievement of grade 8 learners in Mathematics.

3.5 Population, Sample and Sampling Technique

3.5.1 Population

In academic research, the term *population* refers to the total number of people, groups, or organisations that could be included in a study. In other words, the study population is a group of people, institutions or organisations which the study wants to draw conclusions (Bertram & Christiansen, 2014:59). It is also defined as the total number of people, items or events from which particular research information could be gathered (Haralambos & Holborn, 2000:817). It implies that a population is a set of all the individuals, objects or units that acts as a group of interest in a particular research study. In research, population does not necessarily refer to a number of people, but it is a collective term used to describe the total quantity of cases of the type which are the subject of the study. "The cases can consist of objects, people or even events" (Feldman, 2009; Shastri, 2008:116).

Population of this study will be all grade 8 learners in public and private schools within East London education District.

3.5.2 Sampling Technique and Sample

3.5.2.1 Sampling

Various scholars have defined sampling as a process of choosing individuals to participate in a research study after establishing that they can supply information which is relevant to the research (Oppong, 2013:203; Onwuegbuzie & Collins, 2007:281). A representative sample is one in which the sample members are typical of the entire population, that is, the sample members accurately and fairly reflect the characteristics of the population (Giddens, 2009:53; Chiromo, 2006:16). Sampling as defined by Brink, Van Der Walt, & Van Rensburg (2012), is the researchers' process of selecting the sample from a population in order to obtain information about a phenomenon in a way that represents the population of interest. This according to Yin (2011) and (Lichtman, 2013), involves the choice in the selection of specific units and number of units to be included in the study which should be selected based on the availability of the broadest range of information and perspectives on the subject of study or how much variation there is in the population and how much sampling error the researcher is willing to accept.

Common sampling methods are convenience sampling, random sampling, snowball sampling and purposive sampling but factors like the sample size, sample parameters and representatives, sample accessibility and sampling strategy to be used may influence a researchers' choice of selection. In this study, the simple random sampling method was

employed in the selection of the high schools' learners as the research participants. The method was used as a deliberate endeavour to make the sample sufficiently a representative of the population and reduce bias (Chiromo, 2006; Cohen et al, 2011). This sampling method was appropriate to this study.

3.5.2.2 Sample

The sample size for this study was 460 respondents. Stratified sampling technique was used to select six public and private schools. Students from each of the selected schools were randomly selected from public and private schools so as to determine the level of the relationship between parental involvement and Mathematics achievement of the students involved. In this study, the particular schools were chosen on the basis that they are all in East London District. With the help of my research assistant, a good rapport was developed with them, and this enabled me to gain access to the schools. Again, sampling was convenient and cost effective in that all schools selected were close to the researcher in terms of their location, particularly because this study was self-funded by the researcher. Six co-educational high schools were selected in East London. Selecting these schools was appropriate because their status was the same in terms of parental involvement.

3.6 Data Collection

The survey questionnaires are the best method of data collection for this type of a study as they enable quick comparisons and address the aim, objectives and prompt questions (Bryman, 2010). The tool (questionnaire) helped to measure the relationship between parental involvements and grade 8 academic achievements in Mathematics. The choice of the paradigm and the research design guided the study in adopting the instruments that were considered appropriate to collect the data that addressed the key issues of the study.

3.6.1 Data Collection Instrument

In gathering data for this study, two instruments were used. The two instruments used to collect data from the respondents were Parents Involvement Questionnaire for Learners (PIQL), which was generated, based on family structure, parental involvement, communication, home support, parenting styles, and parental educational background and grade 8 termly Mathematics scores. The questionnaires were developed on a 5-point scale for the respondents to indicate their opinion as follows: Strongly Agree (SA =5)

Agree (A =4), Neutral (N =3), Disagree (D= 2), Strongly Disagree (SD =1). The questionnaire consisted of seven sections. The first section contained items on the bio-data, the remaining six sections contained items on the variables of the study. For academic achievement, the students' annual result in Mathematics was used to determine high and low achievers.

The researcher administered the questionnaires to the respondents personally with the help of two research assistants. The two research assistants were informed about the purpose; aims and objectives of the study in order to enable them answer any question or explain any on the questionnaires in the course of administering the questionnaires. Total number of 480 questionnaires were administered, but only 460 were retrieved. Means and Standard Deviation were used to answer the research questions while the Multiple Regression Analysis was used to test the null hypotheses at 0.05 level of significance, using version 23 of Statistical Package for Social Sciences (SPSS) for data analysis.

3.6.2 Questionnaires

A questionnaire is a list of questions used to collect information from a large number of people on the subject of interest. It serves as a medium through which the researcher and the respondent communicate indirectly (Brace, 2004). There are advantages and disadvantages of Questionnaire as outlined below:

- They are cost effective, and convenient to administer (Cohen & Manion, 1994).
- According to Popper (2002) they are supposed to be less invasive than face-to-face interviews.
- Questionnaires are considered an inexpensive way to cover large geographical areas.

Disadvantages of questionnaires

- The main disadvantages include low response rates, and the inability to clarify misunderstandings or doubts of the respondents (Fox, Murray, & Warm, 2003).
- In the case of postal or web-based questionnaires, the researchers do not have any control over the person who completes the questionnaire (Neuman, 2001).

The questionnaire used in the study was a closed ended one that required respondents to select from a restricted –number of prearranged answers. The questionnaire consisted of seven sections as illustrated below:

- Section A: Background and biographical information
- Section B: Parental involvement
- Section C: Family structure
- Section D: parenting
- Section E: Parental educational background
- Section F: Parental home support
- Section G: Communication

3.7 Data Analysis

Litchman (2013) described data as the information collected as part of the research study which could be in form of words or picture; and Cohen, Manion & Morrison (2007), define data analysis as a process of bringing order, structure and meaning to the mass collected relationships among categories of data.

In other words, it is a process of sifting, organizing, summarizing and synthesizing the data to arrive at the results and conclusion of the research study.

This research study analysed the data using quantitative method. Quantitative data analysis is the numerical representation and manipulation of observation for the purpose of describing and explaining the phenomena that those observations reflect. Quantitative data analysis is rigorous and demands the use of statistics. Since the researcher has little or no knowledge of statistics, a good analyst with good knowledge of Statistical Package for the Social Science (SPSS) software was contacted for the study data analysis.

Multivariate analysis was carried out using descriptive and inferential statistics which involved the computation of pre-test mean scores. Data were generated from the pre-coded open-ended questionnaires, and the results were quickly reviewed and observable errors were fixed: sometimes reference was made to the questionnaire to fix such errors. The data was entered into the computer and analysed with version 23 of Statistical Package for Social Sciences (SPSS). The results were used to generate tables for results presentation and quantitative analysis was used to apply prevailing data to inaugurate the relationship between parental involvements and grade 8 learners' academic

achievement in Mathematics. Analysis was done showing sources of significant difference among the groups. All hypotheses were tested at $P < 0.05$ level of significance.

A descriptive analysis was first carried out before a cross tabulation of variables. The specific socio-demographic variables that were selected for this analysis included age, sex, religion, parents' educational background, and gender. It also included other variables such as family size, number in household, family contribution to child's academic, type of accommodation, parents' marital status, parents' form of marriage, parental home support, communication, parenting styles and parental educational background. The analysed data was presented in a tabular form.

3.7.1 Quantitative Data Analysis

Quantitative data analysis is the numerical representation and manipulation of observations for the purpose of describing and explaining the phenomena that those observations reflect. Quantitative analysis is rigorous and demands the use of statistical techniques. The first stage in analysis is to assign codes to the responses. Quantitative data generated through the questionnaire from 460 respondents was coded and inputted to an excel sheet. Data was then cleaned and subjected to preliminary analyses to ensure that all outliers were taken care of and to determine variables that were important for further analysis in order to achieve the aim of the study. The importance of removing outliers cannot be overemphasized. Outliers are threats to the validity of research according to (Creswell, 2013) and it introduces bias to a study. Hence removal of all observable outliers was done carefully before transferring it to SPSS for analysis. Multivariate analysis was carried out through descriptive statistics of frequency and percentages. The results were used to generate tables and charts for presentation.

3.7.2 Qualitative Data Analysis

According to Creswell (2009:4) the qualitative research method is a means of exploring and understanding the meaning each participant, individually or as a group, assigns to a social or human problem. In the same manner, qualitative research was defined by Denzin and Lincoln (2005), as a broad, naturalistic and interpretive approach to the study of social phenomena. In the view of Flick (2007), qualitative research is anticipated to approach the world "out there" and to understand, describe and sometimes explain social phenomena from the inside in a number of different ways:

- By analysing experiences of individuals or groups,
- By analysing interactions and communications in the making,

- By analysing documents or similar traces of experiences and interactions.

Furthermore, Cohen, Manion and Morrison (2007) describe qualitative research in a similar manner when they point out that it may be defined as a particular situation in Social Science that basically depends on watching people in their own territory and interacting with them on their own terms. Different scholars, over the years, have identified a number of common characteristics of qualitative research. They all agree that qualitative research should be conducted in a natural setting – which is its major characteristic (Creswell, 2009; Denzin & Lincoln, 2008). The researchers go to the participants' everyday world and have face-to-face interaction as they believe that the issue being studied can be understood better when it is observed in the setting in which it occurs. In addition, the qualitative researcher becomes the primary research instrument that physically goes to the field to gather data through various methods such as examining documents, observing behaviour, or interviewing participants to establish a holistic picture of the phenomenon.

3.8 Research Quality

Ensuring quality of a study is vital in conducting any type of research, either in qualitative or quantitative. According to Thomson et al (2011), it implies that the 'rules of rigour' applied to quantitative studies needs to be adapted for qualitative methods, but there is yet to be an agreement among the researchers on a common measure for judging the quality of qualitative research due to the different paradigms and philosophical stances which qualitative researchers may take.

However, scholars have argued that the creativity of qualitative research will be stifled if strict criteria for rigour is emphasised; while others argued that though there might be tension between rigour and creativity, there is still need for some kind of validity criteria and methodological or technical procedures to guard against researchers 'making up' concepts and theories that do not genuinely denote the phenomenon being studied (Whittemore et al, 2001 cited in Thomson et al, 2011). In order to ensure that this research work is of good quality, elements such as the trustworthiness (in terms of validity and reliability), dependability and transferability were considered adequately during the course of the study.

3.9 Reliability and Validity

Reliability according to Babbie (2007) is the quality of measurement method that suggests that the same data would have been collected each time in repeated observations of the same phenomenon. It is concerned with the ability of an instrument to measure consistently. Tavakol and Dennick (2011) assert that reliability of an instrument is closely related to validity because an instrument cannot be valid unless it is reliable. Nonetheless, an instrument can be reliable but not valid.

However, Carole and Almut (2008) define Validity as the degree to which an instrument measure what it signifies to measure. It is concerned with whether the instrument measures the concept it seeks to measure and whether this perception is measured accurately. This means that validity is the correct correlation between data and conclusion, but what is more problematic is the achievement of such an accurate relationship. Validity is measured imperative because the objective of the research should be an archetypal of what the researcher intends to explore and reliability concerns about consistency and permanence of data.

The content and face validity was used to validate the instrument by giving to the experts in the fields of Mathematics education for suggestions and corrections. The questionnaire was submitted to the project supervisor to adjudge the suitability of what its being designed to study.

Trustworthiness

The three objectives for building trustworthiness and credibility as identified by Yin (2011) are: transparency, methodic-ness, and adherence to evidence.

Transparency: A good research must be conducted in a way that the public can access it easily, that is, it must be transparent. The research procedures and data use must be readily available for inspection by any other person.

Methodic-ness: Quality research must be void of unexplained biases or deliberate distortion during the research process. A sense of completeness to a research effort and cross-checking study's procedures and data must be involved.

Adherence to evidence: A good research must be based on an explicit set of evidence. The type of data or the multiplicity of the source notwithstanding, the researcher must draw inferences based on the collected data.

The research procedures must be documented and described in such a way that other people can verify and review the work and evidences used to support it.

For this study, information was obtained from the respondents through questionnaires and coded. Conclusions were then based on collected and analysed fairly.

3.10 Ethical Considerations

Ethical issues are important to consider when embarking on a research. Bieger and Gerlach (2008) asserted that all phases of research study must be conducted in accordance with the accepted standards of ethical behaviour. Most of the research studies in education involve the study of people, and in particular children. In such as contexts, special care must be taken to ensure that the participants are treated fairly and ethical consideration must be observed in all respect.

Ethics is defined as a matter of being principled and sensitive to the right of others (Cohen et al 2007). It is said to be an aspect of philosophy which deals with the dynamics of decision making concerning what is right and wrong. Scientific research work, as all human activity, is governed by individual, community and social values. Research ethics involve requirements on daily work, the protection of dignity of subjects and the publication of the information used in the research. A code of ethics is an important principle of any profession that deals with human life. This study obeyed to professional ethics and standards during the process of this study since it involves human beings. Hence, it is appropriate to outline the ethical considerations of this study as guided by the Research Ethics Framework of the University of Fort Hare. A research portfolio (including a protocol checklist) was submitted to the University Research Ethics Committee for approval. The study was approved and the Ethical Clearance Certificate was issued and the permission to continue with the study was granted. The data was kept under the strict care of the researcher, the supervisor and the academic staff of the institution. The rights of the participants were protected through anonymity, confidentiality and privacy. Furthermore, permission was requested from the East London Education District as the research site fell under its jurisdiction' In this study, the researcher made a telephone call to the head office and the District office in the Eastern Cape Department of Education requesting permission to conduct research at the schools. Request form was emailed to the researcher to complete the request for conducting research. The permission to conduct research was granted.

Appointments

Permission letters to the selected six schools' principal were distributed by the researcher and appointments were made to administer the questionnaires to the learners.

Confidentiality and Anonymity

The level of privacy was ensured by making sure that the identity of the participants was anonymous. Confidentiality entails that the participants' data is used in such a way that only the researcher knows the source. Anonymity refers to the identity of respondents being kept secret. It further entails the identity of respondents made unknown regardless of any circumstance (Bryman, 2011). To maintain anonymity, confidentiality and privacy, respondents' names and identifiable information and the name of the school were not displayed. On anonymity, all respondents were assured that their identity and responses will remain anonymous. For example, name of participants was not required on the questionnaires. Lastly, respondents were assured that all the information they provided remains confidential. In this study too, respondents' identity was kept a secret and the respondents' data was used in a way that only the researcher is privy to the source, in order to ensure confidentiality and anonymity.

Avoidance of Deception of Respondents

Deception of respondents involves giving false information in order to ensure participation of subjects when they would have otherwise refused (Wisker 2008:313). In this study, the researcher explained all the necessary information to avoid respondents' deception.

Informed consent

Consent involves the procedure by which an individual may choose whether or not to participate in the study (Drew, 2007). In this study, the respondents were informed of their right to free and voluntary participation with their right to withdraw their consent at any stage during the study. Informed consent is a procedure for ensuring that research

respondents understand what is being done to them, the limits to their participation and awareness of any potential risk they sustain. Bless, Higson, and Kagee (2007) emphasized that respondents have a right to know what the research is about, how it will affect them and the risk and benefits of their involvement and the fact that they have the right to decline to be involved if they choose to do so.

In this research, respondents were given true and relevant information to help them to decide whether they want to participate or not. This was done clearly and in their own language. Respondents in this study participated by their own free will and not forced. As advised by Bryman (2011) and De Vos et al (2011), informed consent letters were signed by each and every respondent to endorse their approval to be part of the study and also assured that the information gathered from them is mainly for research purpose only and nothing else. Also, the objectives of the study were explained to them before the commencement of the research. Additionally, consent from parents or guardians was sought as the participants were minors. Informed consent forms included a brief outline of the nature of the study, a description of what would be the participants' involvement, the duration of the study, the researcher's name and contact details and signature and date of the letter of agreement. Informed consent is the major ethical issue in conducting research.

Avoidance of Harms to Respondents

De Vos et al, (2011) state that, it is the researchers' ethical obligation to protect participants from any form of physical or emotional harm or discomfort. The researcher ensured that no harm was brought to the respondents as a result of participation in this study. In order to ensure that the participants were not exposed to any harm, consent of vulnerability was also protected, and the right to withdraw at any stage of the research was ensured. Again the researcher anticipated and respected all cultural, religions, gender, and other differences in the respondents and study sites.

Good rapport and friendship

Right from the beginning of this study, the researcher was quick in establishing good rapport with the respondents and she also develop friendly relationship with all the people in the various schools involved in the study, and all the staff attached to assist in the distribution of the questionnaire to the students.

Inappropriate behaviour/ maintaining professionalism

In the course of conducting this research work, the researcher was able to comport herself, maintaining professionalism by showing respect, love, integrity and unselfishness in her relationship with the respondents. All appointments made were kept timely. There was actually no incident of argument or any form of misunderstanding or case of inappropriate behaviour that occurred through the course of the study.

Voluntary participation

According to Babbie (2004), research involves an intrusion into people's lives. Therefore, a tenet of social and educational research ethics is that participation should be voluntary. Respondents in this study were all encouraged to participate voluntarily; that is without coercion. Respondents were all informed that their participation was voluntary and that they could terminate their involvement in the study in case of any form of discomfort. This was done via letter of information and soliciting consent. All the respondents signed consent letters to confirm their willingness to participate.

3.11 Chapter Summary

This chapter has covered aspects of research design and methodology used in this study. The justification for the choice of methodology and the paradigm of the study was presented. The validity and reliability of the study and the data analysis were discussed. The next chapter comprises of detailed analysis of the data.

CHAPTER FOUR

Data Presentation and Analysis

4.1 Introduction

This chapter discussed material obtained through quantitative research method to examine the relationship between parental involvement and grade 8 learners' mathematic academic achievement in East London Education District in the Eastern Cape, based on the null hypotheses earlier stated. The results are presented according to the study objectives in three chapters. Also, the chapter presents the summary of the findings on data analyzed. All the hypotheses were tested at 0.05 level of significance. It is important to reiterate the study objectives as presented in the study as follows:

1. To investigate the relationship between parental involvement and grade 8 learners' academic achievement in Mathematics
2. To investigate the relationship between family structure and grade 8 learners' academic achievement in Mathematics
3. To investigate the relationship between parental home support and grade 8 learners' academic achievement in Mathematics
4. To determine the relationship between parenting styles and grade 8 learners' academic achievement in Mathematics
5. To investigate the relationship between parents' educational background and grade 8 learners' academic achievement in Mathematics
6. To evaluate relationship between the extent of communication and grade 8 learners' academic achievement in Mathematics.

The chapter starts with contextual and demographical background within which the argument presented could be situated. The data in this chapter are shown through appropriate tabular, and descriptive presentation techniques. Tabulation of key dependent and independent variables are presented in various tables and discussion of their implications facilitates descriptive analysis of the data. This method of presentation enables an easy understanding and clearer view of findings in a short available time. The results are arranged under six broad headings, viz. Socio-demographic

characteristics of respondents; parental home support, parental involvement, communication, parenting styles and parental educational background.

4.2 Socio-demographic Characteristics of study Respondents

The study took place in East London education district of South Africa. The research sample comprised of 460 respondents' learners. In total, 480 questionnaires were administered, in 6 schools, (private and public). However, the analysis was based on 460 respondents with complete responses. The age group 14 is the mostly represented and could provide appropriate information on their parents' involvement as it relates to Learners' academic achievement in Mathematics. Three religions were identified in the study area. As indicated in table 4, most participants are Christians 276(62.7%) followed by traditional worshippers 151(34.3%). As shown in table 6, most of the participants have family size between 5-6 280(61.8%) and in table 2 shows that most of the participants are female 232(50.5%).

4.3 Hypotheses Testing and Interpretation of Results

In testing the hypotheses. analysis, Analysis of variance (ANOVA), was used based on the set of questions in the study.

Table4:1

Descriptive statistics

S/N	Variable	Frequenc y	Minimum	Maximum	Mean	Std. Deviation
1	Gender	460	1	8	1.52	0.58
2	Religion	440	1	13	1.73	1.08
3	Grade	460	1	14	7.95	0.65
4	Family size	453	1	3	2.54	0.62
5	Age	459	1	20	14.25	1.39
6	Number in household	455	1	3	1.85	0.62
7	Family contribution to child's academic	454	1	4	1.40	0.72
8	Type of accommodation	452	1	4	2.96	1.02
9	Parents' marital status	459	1	4	2.03	0.96
10	Parents' form of marriage	460	1	4	3.25	0.77
11	Parental home support	436	5	22	9.88	3.36
12	Parental involvement	429	5	21	9.33	3.00
13	Communication	443	5	22	11.81	3.62
14	Parenting styles	431	5	41	10.16	3.48
15	Parental educational background	433	5	21	10.24	2.68

Table 4.1 depicts the frequency, minimum value, maximum value, mean and standard deviation of all the variables and the variable that indicates the highest mean is age of participants while the variable that shows the lowest mean is family contribution to child's education. These results imply that age is the most important socio-demographic factor in parental involvement and grade 8 learners' mathematic academic achievement in East London Education District in the Eastern Cape

Dependent Variable: ACHIEVEMENT PRE-TEST

Table 4:2: Learners' achievement in mathematics scores distribution of the respondents

S/N	Score	Frequency	Percentage
1	1-39	134	29.1
2	40-49	90	19.5
3	50-69	147	31.9
4	70-100	89	19.3
	Total	460	100.0

As shown in table 4:2 most participants score between 50 to 69 (31.9%) which is above average score. However, quiet a number of students score below average. In total, the gap between those who score below average (133+90) and those who score above average (147+89) is 12.

4.3.1 HYPOTHESIS ONE

There is no significant relationship among the family structure, communication, parenting style, parental support and parental educational background on learners' Mathematics academic achievement.

To test for relationship between predictors' variables of family structure, communication, parenting style, parental support and parental educational background on learners' Mathematics academic achievement, the multiple regression analysis was carried out.

Hypothesis Ho1: The family structure, communication, parenting style, parental support and parental educational background will jointly have significant influence on learners' achievement in Mathematics.

TABLE 4:3: FAMILY STRUCTURE, COMMUNICATION, PARENTING STYLES, PARENTAL SUPPORT AND PARENTAL EDUCATIONAL BACKGROUND AS JOINT PREDICTORS OF LEARNERS' ACHIEVEMENT IN MATHEMATICS

Predictors	B	R	R-Square	P
Family Structure	-0.32	0.09	0.05	< 0.05
Communication	0.76			
Parenting styles	0.43			
Parental educational background	-0.50			

Dependent Variable: Learners' achievement in mathematics

Table 4:3 above indicates that family structure, communication, parenting styles, parental support and parental educational background significantly predict learners' achievement in mathematics ($R=0.09$; $R^2=.005$; $P < 0.05$). This means that all these variables will jointly determine learners' achievement in mathematics. However, family structure, ($r = 0.09$; $R^2= .005$; $P < 0.05$) communication, ($r = 0.05$; $P > 0.05$) parenting styles, ($r = 0.54$; $P < 0.05$) parental support, ($r = 0.20$; $P < 0.05$) and parental educational background accounts for 5% ($r = 0.68$; $P < 0.05$), of the variance in the level of learners' achievement in mathematics of the participants. Thus, the alternative hypothesis, which states that family structure, communication, parenting styles, parental support and parental educational background significantly predicts learners' achievement in mathematics, is accepted. Nevertheless, specifically, family structure (-0.32) and parental educational background (-0.50) had negative impact on learners' achievement in mathematics. On the other hand, communication (0.76) and parenting styles (0.43) had positive impact on learners' achievement in mathematics. Based on the results of the analysis, the coefficient for the Beta weight for the amount of standard deviation unit of change in the dependent variable for each standard deviation unit of change in the dependent variable was calculated.

4.3.2 HYPOTHESIS Two

Hypothesis Ho2: There is no significant difference between family structure and learners' achievement in Mathematics.

TABLE4:4: ONE WAY ANOVA OF FAMILY STRUCTURE AND LEARNERS' ACHIEVEMENT IN MATHEMATICS

Number of Household	N	Mean	S.D	df	F	P
1-3	125	50.77	19.33	452	1.46	> 0.05
4-6	270	51.60	19.28			
7-10	60	46.88	19.45			
Type of Accommodation	N	Mean	S.D	df	F	P
One room	67	49.74	19.63	448	1.25	> 0.05
One bedroom	45	46.31	18.86			
Two bedroom	179	50.46	18.97			
3 bedroom and above	161	52.39	19.62			
Parents' Marital Status	N	Mean	S.D	df	F	P
Single	138	51.89	19.63	455	3.86	< 0.05
Married	236	49.57	18.86			
Divorced	16	47.25	18.97			
Separated	69	52.24	19.62			
Parents' Form of Marriage	N	Mean	S.D	df	F	P
Cohabitation	91	48.46	19.92	456	1.76	< 0.05
Marriage between opposite sex	158	50.75	18.86			
Single	211	51.72	19.39			

The results of the analysis of one-way ANOVA ($F = 1.46$, $df = 452$, $P > 0.05$) indicated no statistically significant relationship (stronger than 0.05) in the independent variable (family structure) and dependent variable (learners' achievement in Mathematics). That is, there is no difference among the number of people living in the household such as 1-3, 4-6 and 7-10. This means that null hypothesis is accepted. However, number of participants living in household of 4-6 shows higher level of achievement in mathematics than those of 1-3 and 7-10. Based on no significant relationship, the coefficient for the Beta weight for the amount of standard deviation unit of change in the dependent variable for each standard deviation unit of change in the dependent variable was calculated.

Also, one-way ANOVA of type of accommodation and learners' achievement in mathematics and the results indicate that there is no significant difference between type of accommodation and learners' achievement in mathematics ($F = 1.25$, $df = 448$, $P > 0.05$). That is, there is no difference among learners living in one room, one bedroom, two bedrooms and three bedrooms and above. Thus, the null hypothesis is accepted. However, students living in 3 bedrooms and above shows higher level of achievement in mathematics than those living in one room, one bedroom and two bedrooms. Based on no significant relationship, the coefficient for the Beta weight for the amount of standard deviation unit of change in the dependent variable for each standard deviation unit of change in the dependent variable was calculated. Accordingly, one-way ANOVA of parents' marital status and learners' achievement in mathematics and the results indicate that there is a significant difference between parents' marital status and learners' achievement in mathematics ($F = 3.86$, $df = 455$, $P < 0.05$). That is, there is a difference among parents who are single, married, divorced and separated. Participants whose parents are separated shows higher level of achievement in mathematics than those who are single, married and divorced. Based on this significant relationship, the coefficient for the Beta weight for the amount of standard deviation unit of change in the dependent variable for each standard deviation unit of change in the dependent variable was calculated.

In addition, one-way ANOVA of parents' form of marriage and learners' achievement in mathematics and the results indicate that there is a significant difference between parents' form of marriage and learners' achievement in mathematics ($F = 1.76$, $df = 456$, $P < 0.05$). That is, there is a significant difference among participants whose parents are cohabitating, married to opposite sex and are single. Therefore, the null hypothesis is rejected. Single parents show higher level of achievement in mathematics than those who

are cohabiting and opposite sex. Based on this significant relationship, the coefficient for the Beta weight for the amount of standard deviation unit of change in the dependent variable for each standard deviation unit of change in the dependent variable was calculated

4.3.3 HYPOTHESIS THREE

Hypothesis Ho 3: There is no significant relationship between parental home support and learners' achievement in Mathematics

TABLE 4:5: RELATIONSHIP BETWEEN PARENTAL HOME SUPPORT AND LEARNERS' ACHIEVEMENT IN MATHEMATICS

Variable	N	R	Mean	P
Parental Home Support	447	0.50	50.77	< 0.05
Learners 'Achievement in Mathematics	460		3.48	

The results of the analysis of one-way ANOVA ($r = 0.50$; $P < 0.05$) indicated a statistically significant relationship (stronger than 0.05) in the independent variable (parental home) and dependent variable (learners' achievement in Mathematics). Therefore, the null hypothesis is rejected. That is, parental home support is associated with learners' achievement in mathematics. The relationship is moderate and positive. This means that the higher the parental home support the higher the learners' achievement in mathematics and vice versa. The implication of this finding is that parental home support enhances learners' achievement in mathematics. Based on this significant relationship, the coefficient for the Beta weight for the amount of standard deviation unit of change in the dependent variable for each standard deviation unit of change in the dependent variable was calculated.

4.3.4 HYPOTHESIS FOUR

Hypothesis Ho 4: There is no significant relationship between parenting styles and learners' achievement in Mathematics

TABLE 1:6: RELATIONSHIP BETWEEN PARENTING STYLES AND LEARNERS' ACHIEVEMENT IN MATHEMATICS

Variable	N	R	Mean	P
Parenting styles	429	0.54	50.77	< 0.05
Learners 'Achievement in Mathematics	460		10.16	

The results of the analysis of one-way ANOVA ($r = 0.54$; $P < 0.05$) indicated a statistically significant relationship (stronger than 0.05) in the independent variable (parenting style) and dependent variable (learners' achievement in Mathematics). Therefore, the null hypothesis is rejected. That is, parenting styles is associated with learners' achievement in mathematics. The relationship is moderate and positive. This means that the higher the level of parenting styles the higher the learners' achievement in mathematics. The implication of this finding is that positive parenting styles would lead to the higher achievement in mathematics. Based on this significant relationship, the coefficient for the Beta weight for the amount of standard deviation unit of change in the dependent variable for each standard deviation unit of change in the dependent variable was calculated

4.3.5 HYPOTHESIS FIVE

Hypothesis Ho 5: There is no significant relationship between educational background of parents and learners' performance in Mathematics

TABLE4.7: RELATIONSHIP BETWEEN EDUCATIONAL BACKGROUND OF PARENTS AND LEARNERS' PERFORMANCE IN MATHEMATICS

Variable	N	R	Mean	P
Parents' Educational Background	443	0.68	50.77	< 0.05
Learners 'Performance in Mathematics	460		10.24	

The results of the analysis of one-way ANOVA ($r = 0.68$; $P < 0.05$) indicated a statistically significant relationship (stronger than 0.05) in the independent variable (educational background) and dependent variable (learners' achievement in Mathematics). Therefore, the null hypothesis is rejected. That is, parents' educational background can determine learners' performance in mathematics. The relationship is strong and positive. This means that the higher the educational background of parents the higher learners perform in mathematics. The implication of this finding is that parents with sound educational background can influence the educational successes of their children in mathematics. Based on this significant relationship, the coefficient for the Beta weight for the amount of standard deviation unit of change in the dependent variable for each standard deviation unit of change in the dependent variable was calculated.

4.3.6 HYPOTHESIS SIX

There is no significant relationship between extent of communication and learners' achievement in Mathematics. This hypothesis was tested with the use of one-way ANOVA.

TABLE 4.8: RELATIONSHIP BETWEEN EXTENT OF COMMUNICATION AND LEARNERS' ACHIEVEMENT IN MATHEMATICS

Variable	N	R	Mean	P
Communication	443	0.05	50.77	> 0.05
Learners 'Achievement in Mathematics	460		11.81	

The results of the analysis of one-way ANOVA ($r = 0.05$; $P > 0.05$) indicated no statistically significant relationship (stronger than 0.05) in the independent variable (communication) and dependent variable (learners' achievement in Mathematics). Therefore, the null hypothesis is accepted. That is, parents' extent of communication is not associated with learners' achievement in mathematics. Parents- school extent of communication will not determine learner's achievement in mathematics. The implication of this finding is that parents' extent of communication is not related to the success of children in mathematics. Based on no significant relationship, the coefficient for the Beta weight for the amount of standard deviation unit of change in the dependent variable for each standard deviation unit of change in the independent variable was calculated.

4:4 Summary of the Findings

Based on the data analysed, the findings obtained were summarize as follows:

1. There will be a significant relationship between family structure, communication, parenting styles, home support and parental educational background and learners' achievement in mathematics
2. There will be no significant relationship between family structure and leaners' achievement in mathematics
3. There will be a significant relationship between parental home support and learners' achievement in mathematics
4. There will be a significant relationship between parenting styles and learners' achievement in mathematics
5. There will be a significant relationship between educational background of parents and learners' performance in mathematics
6. There will be no significant relationship between extent of communication and learners' achievement in mathematic

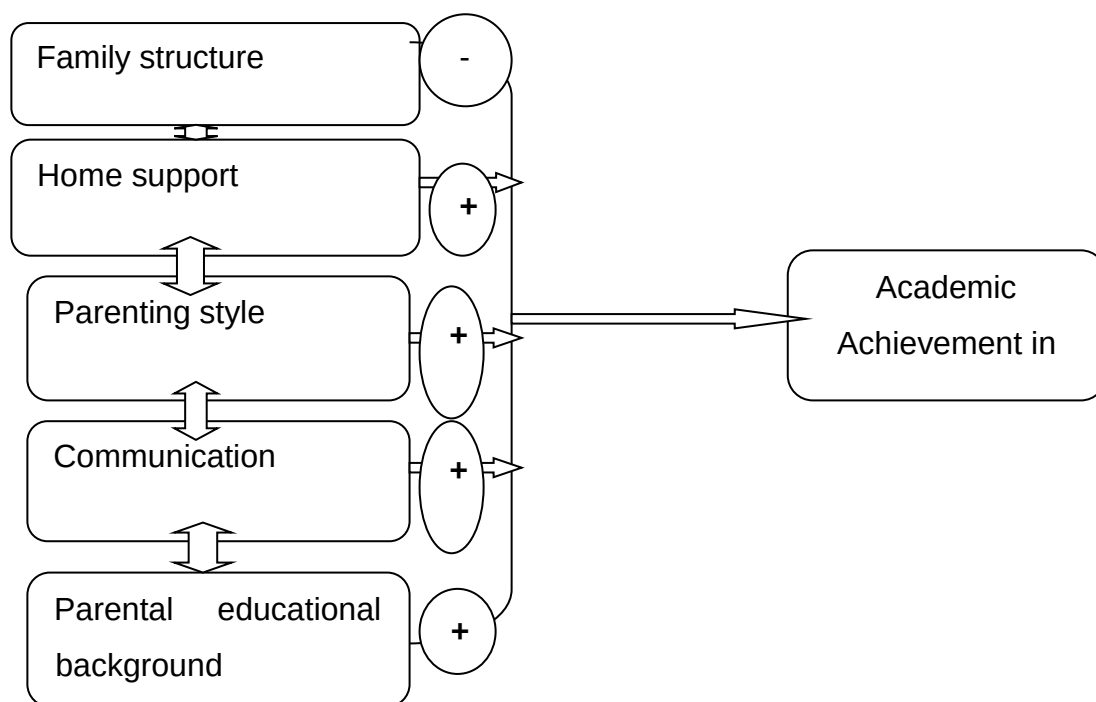


FIGURE 4.1: FACTORS OF ACHIEVEMENTS IN MATHEMATICS

Source: Author's conception

CHAPTER FIVE

Discussion of Findings, Summary, and Recommendations

5.1 Introduction

The main aim of this chapter is to discuss the findings presented in chapter four of this study. The discussions are based on critical examination of the quantitative data generated in this study. The theoretical framework guided the analysis and where necessary, the results are compared with the related literature. Mathematics teachers and researchers in the field of Mathematics education have been struggling to find ways to tackle the challenges in the Mathematics classroom. However, in an attempt to contribute to the solution to this challenge and the growing body of literature, this study looked at the relationship between parental involvement and grade 8 learners' Mathematics academic achievement. To achieve this, a quantitative research method was used. The data collected was analysed using both descriptive and inferential statistics. This chapter also provides conclusion as well as recommendations to improve on parental involvement in students' Mathematics academic achievement.

5.2 General Findings

The main aim of this section is to summarize the key empirical findings of this study. The empirical foundation and scholarly justification for this study was stated in chapter one and further elucidated in subsequent chapters. As discussed in chapter one, there are different forms and levels of involvement both in and out of schools. These include activities that are provided and encouraged by the school; and that empower parents in working on their children's learning and development. Despite the various studies that have been conducted and the overwhelming agreement by researchers worldwide that home-school partnerships are necessary, literature show that there is low parental involvement in schools (Lemmer, 2012; Mmotlane, Winnaar, wa & Kivilu, 2009). From all indication, there seem to be different dimension to parental involvement.

Furthermore, findings from various studies indicate that the incidences and types of parental involvement differ as learner transit through the upper elementary to

secondary grades (National Centre for Education Statistics 2013; Marjoribanks, 2005).

In both practice and research, it is evident that there are differences in parental involvement between primary and high school grade levels. It was against these backdrops that this study is hinged.

The literature review focused on broader perspectives of parental involvements. This study has also examined how each dimension of parental involvement in East London district families has influenced learner's academic achievement specifically. The broader theoretical hypothesis on the relationship between parental involvement and learners' Mathematics academic achievement were explored in chapter two. The data analysis in this study provided the following findings:

The first hypothesis indicates that family structure, communication, parenting styles, parental support and parental educational background significantly predict learners' achievement in mathematics. This means that all these variables will jointly determine learners' achievement in mathematics. However, family structure, communication, parenting styles, parental support, and parental educational background, accounts for 5% of the variance in the level of learners' achievement in Mathematics of the participants.

The result of the second hypothesis shows the number of people living in a household and learners' achievement in Mathematics. The finding indicates that there is no significant difference between number of people living in a household and learners' achievement in Mathematics. Therefore, there was no difference among the number of people living in the household such as 1-3, 4-6 and 7-10.

The analysis on the type of accommodation and learners' achievement in Mathematics was done. The results indicated that there was no significant difference between the type of accommodation and learners' achievement in Mathematics. That is, there was no difference in performance in Mathematics among learners living in one room, one bedroom, two-bedroom and three-bedroom and above. However, students living in 3-bedroom and above, showed higher level of achievement in Mathematics, than those living in one room, one bedroom and two bedroom houses. Accordingly, on parents' marital status and learners' achievement in Mathematics, the results indicated that there was a significant difference between parents' marital status and learners' achievement in

Mathematics. That is, there was a difference among parents who were single, married, divorced and separated. Participants whose parents are separated showed higher level of achievement in Mathematics than those who were single, married and divorced. In addition, parents' form of marriage and learners' achievement in Mathematics, findings indicated that there was a significant difference between parents' form of marriage and learners' achievement in Mathematics. That is, there was a significant difference among participants whose parents were cohabitating, married to opposite sex and single. Learners raised by single parents showed higher level of achievement in Mathematics than those who were raised by cohabiting and opposite sex parents.

These findings are in line with Ajila and Olutola (2007) who state that, there are some children in single parent families that perform better academically than children from two parent families, and that such performance may be attributed to other factors inherent in the personality of such children. According to Pong, Dronkers & Hampden-Thompson (2003), a multilevel analysis carried out on the gap in Mathematics and Science achievement of third and fourth-graders who live with a single parent versus those who live with two parents in 11 countries showed that single parenthood was less damaging when there are same and equal resources; in family policies for both single and two-parent families. In addition, the single and two parent achievement gap is greater in countries where single-parent families are more prevalent and that being a single parent family member does not mean the person cannot achieve academically, since certain policy implementation could turn fortunes. The result of this study is the same with that of (Uwaifo, 2008); albeit, family setting and background plays a vital role in strengthening or devastating a student's academic achievement.

The result of the third hypothesis indicates that there was a significant relationship between parental home support and learners' achievement in Mathematics. That is, parental home support was associated with learners' achievement in Mathematics. However, the relationship was weak and negative. This means that the higher the parental home support, the lower the learners' achievement in Mathematics and vice versa. On the other hand, studies affirm that there are numerous forms of homebased involvement. Specifically, these include for example parent-child communication, encouragement for learning in Mathematics, and parental expectations and aspirations for their children, which

are said to be linked to increased Mathematics achievement in elementary school children (Nye et al., 2007; Jeynes, 2005).

According to Padavick (2009), parents can influence their children by being their original teachers of intrinsic motivation, morals, and discipline. They can also maximize the teachable moments that occur in abundance within the home setting. Furthermore, parents can support their children's Mathematics success through positive encouragement, for children who received high levels of encouragement showed more persistence and effort when they faced difficult mathematical tasks. In addition, parents can influence self-concept, beliefs, and goals by telling their children that they are smart and that they should go to college, which will influence their child's career decisions indirectly (Cinamon & Dan, 2010). Moreover, parents can directly, support the pursuit of a STEM career by setting high expectations for doing well in Mathematics courses and emphasising the significance and the need for success in Mathematics.

The result for the fourth hypothesis indicated that there was a significant relationship between parenting styles and learners' achievement in mathematics. That is, parenting styles was associated with learners' achievement in Mathematics. The relationship was moderate and positive. This means that the higher the level of parenting styles the higher the learners' achievement in Mathematics. Gonzalez and Wolters (2006) assert that authoritarian and permissive parenting styles do not predict their children's autonomous academic behaviour; but Turner, et al., (2009), in their view state that positive experiences of young adults with their parents leads to greater achievement at college. Similarly, children who see their parents as authoritative are likely to show higher academic self efficacy and better academic performances. Furthermore, while higher levels of adolescent school performance can be associated with an authoritative parenting style (Kordi & Baharudin, 2010; Assadi,et.al, 2007), other studies argue that indulgent parents' children are likely to perform averagely well at school, since they have a relatively high self-esteem, effective social skills, and low levels of depression (Yusuf, et al., 2009).

However, compared to authoritarian and neglectful parents, the children of indulgent parents (low in demand and high in responsiveness), also tend to use more SRL strategies (Erden & Uredi, 2008). The reason for this is that authoritative

parenting literature and research show a positive correlation between academic success competence with parental acceptance and encouragement, but negatively correlated with parental control (Lakshmi & Arora 2006). Scholars have further suggested that in schooling success and competence, parental acceptance and parental encouragement have a facilitative role. In the view of Yusuf, et al., (2009), the children of authoritarian parents (highly demanding, but low in responsiveness), or uninvolved (low in both responsiveness, and highly demanding), are likely to perform poorly at school, seem to have less social skills, a lower self-esteem, and to have higher levels of depression.

Studies further indicate that, authoritarian and permissive parenting styles correlate negatively with academic achievement. They are also uniformly negative in diverse socio-cultural contexts (Assadi, et al., 2007). Furthermore, Gracia, Garcia and Lila (2008), added that there was a significant correlation between authoritarian and neglectful parenting styles and the poor psychological adjustment of the adolescents. Contrary to the above, other studies showed that, there is no negative significance between permissive or authoritarian parenting styles and academic achievement. It was noted that permissive, authoritarian and authoritative parenting styles do not relate significantly to the children's academic achievement (Elias & Yee, 2009:187; Pisacano, 2006).

The fifth hypothesis depicts that a significant relationship existed between educational background of parents and learners' performance in Mathematics. That is, parents' educational background can determine learners' performance in Mathematics. The relationship was strong and positive in this study. This means that the higher the educational background of parents the higher the learners' performance in Mathematics. Other studies have showed that parents' high educational level and their early exposure to Mathematics tend to assist their children to be more successful in Mathematics than their peers whose parents were less educated and not being exposed to Mathematics (Demir, Kilic, & Unal, 2010). In addition, Alomar (2006) argue that, highly educated parents know the learning requirements and have the opportunity to create the best educational environment for their children. On the contrary however, parents with less formal education and low-income might be occupied with survival strategies and be more focussed on the family, or does not have time to participate in home-school involvement strategies in order to advance child's learning. Thus, parents with

higher level of education stress more on the relevance and importance of education, and involve themselves more in their children's school activities (for example, monitoring their children's homework (Sy, 2006).

The sixth hypothesis indicated that there was no significant relationship between the extent of communication and learners' achievement in Mathematics. That means that parents' extent of communication is not associated with learners' achievement in mathematics. Parents' extent of communication will not determine learner's achievement in Mathematics. This concurs with the finding of Fan and Williams, (2010) studies which show that school-initiated and family initiated parent-school communications have negative effects on children's academic achievement. Also, study asserts that realisation of school; home and community partnership encounters lots of barriers or hindrances (Rubin & Abrego in Obeidat & Al-Hassan, 2009). Furthermore, it has been pointed that parents and teachers lack good understanding of their genuine desire and of their support for parental participation. Due to poor parental response to school communication, it may be assumed by teachers that parents do not want to participate. Similarly, it may also mean that parents do not have confidence in teachers' invitation to be involved. In addition, both parents and teachers have the negative impression about learners' perception of parental involvement. For parents to actively participate in their children's education, these wrong impressions need to be corrected (Glasgow & Whitney, 2009).

According to Jeynes (2010), involvement of parents in parent-teacher conferences is high comparatively in their child's primary school years and its likely benefits are recognised as well. McEwan, (2005) noted that during parent-teacher conferences, teachers do not communicate effectively with parents; with worse case of trainee teachers (Graham-Clay, 2005) especially in cosmopolitan situations (Guo, 2010). Another study noted that as much as it is important for teachers to effectively communicate with parents, it is rare to find instruction to develop communication skills in pre-service or in-service teacher training. (LawrenceLightfoot, 2004), also points to few research indicating the use of written reports to parents about students' in-school behaviour.

5.3 Key Findings

The study aimed at establishing the relationship between parental involvement and grade8 academic achievement in Mathematics. In this section therefore, the key findings are illustrated.

The study showed that the selected schools were knowledgeable and considerate about the parental involvement; and that they understand the backgrounds of the learners that they teach. Furthermore, these schools were working hard to improve the education of the children through partnerships with relevant stakeholders and in some cases through notifying parents about some of the educational matters that may directly or indirectly affect the teaching and learning environment. In the view of Mkile (2009) and Nyezi (2009), large number of parents found it difficult to assist their children at home due to the fact that they have very low literacy levels and they are not familiar with the new learning areas that have been introduced in the school curriculum. However, the schools seemed not to be doing much to support these parents through the organisation of some courses, activities and programmes that may play a pivotal role in improving the parental involvement level in the affected remote communities. In addition, most schools' meetings and other activities are organised during the week and the majority of the parents find it difficult to attend these meetings and activities due to work related and social issues (Nyezi, 2009).

This study also revealed that the educational level of parents has an impact in the manner in which parents are involved in the education of their children. Learners with parents of low literacy levels or education level in this research appear to be more passively involved (Mmotlane, *et al.*2009). Parents with low levels of education encounter difficulties when trying to assist their children with homework. Such parents depend on other household members, such as older siblings or children from the neighbourhood to assist in the education of their children. Gender wise, this study showed that mothers were more involved in their children's education and tend to help their children to improve their participation.

To enhance and improve participation, teachers and parents should work together in partnership to ensure that what is taught at school has a relationship with what is taught at home and vice versa. Good partnerships will not only improve the relationship between parents, teachers and learners, but will also encourage

teamwork within the same educational framework. Therefore, cooperation between parents and teachers is then a key ingredient to educational achievement. Additionally, the fact that parental involvement influences the cognitive and social development of children; they are then essential stakeholders without whom schools cannot function effectively. Parents can provide valuable information about their children and lay the foundation on which teachers can further build on. Sanders and Sheldon (2009), stated that when parents are involved in their children's education, children will refrain from misconduct and focus their attention on their education. This implies that the more involved the parents are, the better their children are; because they will be more receptive of learning and view schooling in a more positive manner (Sanders & Sheldon, 2009). Furthermore, parental involvement in children's school activities cannot be overemphasised. Among other benefits, it facilitates socialization, positive attitude, and socially acceptable behaviour. Irrespective of parental educational backgrounds, parental role is vital in the education of their children and thus makes parental involvement a strong predictor of learners' academic achievement.

5.4 Discussion of Findings according to main Variables of this Study

- **Family Structure and Mathematics achievement**

The results indicated that there was no significant difference between parents' form of marriage and learners' achievement in Mathematics. Moreover, the results showed that learners raised by single parents show higher level of achievement in Mathematics than those who are raised by cohabiting and opposite sex parents. This is confirming Pong, Dronkers and Hampden-Thompson (2003) study that found single parenthood was less damaging when there are same and equal resources in family policies for both single and two-parent families. They further stated that, the single parent and two-parent achievement gap is greater in countries where single-parent families are more prevalent. This implies that being a single parent does not mean the learner is doomed academically, since certain policy implementation could turn fortunes. On the contrary, Alston and McLanahan (1991) examined the relationship between family structures, where both parents are present in the household and children's achievement. The results showed positive effects (student academic growth) were more evident in traditional family homes (i.e., natural parents) than in a single-parent or stepparent homes.

In the traditional family home, parents tend to have more time to devote to conversations about education and its importance and to assist more. In today's family setting, what was once considered a traditional two-parent family consisting of the child's biological father and mother is now less prevalent. The potential for academic success is stifled by living in a disruptive home prior to foster placement, kinship placement, or a single parent home. In addition, in the view of Amato (2005), family is the most important socializing agent that moulds the child in the society. It has been noted that children brought up in families with two continuously married parents are likely to perform better on cognitive, emotional, and behavioural outcomes compared to children raised in other types of family (Amato, 2005). Arguably also, children living in single parent families (whether due to divorce, parent never marrying, or widowing) have lower achievement than children from two parent homes (Chiu & Xihua, 2008). Although children who have parents that stay together have the best achievement outcomes (Jeynes, 2005a), children from two parent households have also better Mathematics and Science achievement than children from single parent households, even if the two parent family is blended (Chiu 2007; Chiu & Xihua 2008).

- **Parental Home Support and Mathematics achievement**

The results indicated that there was a significant relationship between parental home support and learners' achievement in Mathematics. That is, parental home support is associated with learners' achievement in Mathematics. This relationship was moderate and positive in this study. This study results corroborate with the view of (Epstein, 1992) that, the support of knowledgeable, involving, and supportive parents has been found to improve the academic performance and behaviours of their children. This is also in line with the literature that has shown that numerous forms of home-based involvement specifically parent-child communication, encouragement for learning in Mathematics, and parental expectations and aspirations for their children are said to be linked to increased Mathematics achievement in elementary school children (Nye et al., 2007; Jeynes, 2003, 2005).

In addition, Hayes (2011) in his research on parental involvement and achievement outcomes in African-American adolescents concluded that, of the three broad constructs of home-based parental involvement, school-based parental

involvement, and parents' achievement value, the most important for academic success were parents' expectations and aspirations for their children's success. Parental expectations have been demonstrated to have a positive relationship with educational aspirations (Benner & Mistry 2007; Catsambis 2001). Moreover, parental expectations may act as a moderating factor between students' academic abilities and their educational aspirations and attainment (Marjoribanks, 2003). Children model the behaviours and expectations given to them by their parents by acting similarly. In other words, if parents exhibited a strong work ethic and drive to succeed, then the child is more prone to do the same. When parents communicated the expectation of their student performing well at school and then backed up this message with actions of care, concern, and support, studies have shown an overall positive correlation to improved and sustain academic achievement.

Parental supports such as setting high expectations and providing a learning conducive environment by parents could possibly boost the development of their children mathematical understanding and abilities. What learners go through at home is linked to their Mathematics intrinsic motivation at early age and later improvement through high school (Gottfried, Gottfried, & Oliver, 2009). In agreement with the above views, Mistry et al. (2009) say that the expectations of parents may influence not only academic achievement and aspirations in their children, but also the future expectations of the parents themselves. In line with this, other studies have added that, encouraging positive support from parents in the home is associated with higher academic success (Swanson, Valiente, Lemery-Chalfant, & O'Brien, 2011; Melby, Conger, Fang, Wickrama, & Conger, 2008).

- **Parenting style and Mathematics achievement**

This study showed that there was a significant relationship between parenting styles and learners' achievement in Mathematics. This means that, parenting styles are associated with learners' achievement in Mathematics. The relationship of these variables was moderate and positive. The interpretation of this finding is that, the higher the parenting style, the higher the learners' achievement in Mathematics. This is in line with the view of Turner, Chandler and Heffer (2009:343) which suggests that academic success may be influenced by child-

rearing practices, and that authoritative parenting styles significantly and positively relate to academic performance, but found no significant correlation between achievement and permissive and authoritarian parenting styles.

Studies have also shown the importance of parenting to the overall learning process and achievement (Belfanz & Byrnes, 2012; Redford, et al, 2009). The role of parenting is significant to individual learner's achievement. In addition, Evans (2005) states that for most children, the nature of their schooling was not nearly as significant as the nature of the parenting they received, socioeconomic status, or the media culture that surrounded them. Furthermore, research has showed that there is positive correlation between academic success competence with parental acceptance and encouragement, but negatively correlated with parental control (Lakshmi & Arora 2006:50). Again, it was suggested that in school success and competence, parental acceptance and parental encouragement have a facilitative role. In the view of Yusuf, et al (2009:8), the children of authoritarian parents (highly demanding, but low in responsiveness), or uninvolved (low in both responsiveness, and highly demanding), are likely to perform poorly at school, seem to have less social skills, a lower self-esteem, and to have higher levels of depression.

- **Parental education and Mathematics achievement**

Results from the study indicated that a significant relationship existed between educational background of parents and learners' performance in Mathematics. This implies that parents' educational background can determine learners' performance in Mathematics. The relationship between these variables was strong and positive. This finding supports Demir, Kilic, and Unal (2010) who stated that parents' high educational level and their early exposure to Mathematics tend to assist their children to be more successful in Mathematics than their peers whose parents were less educated and not being exposed to Mathematics.

Furthermore, the study revealed that, the higher the educational background of parents, the higher the learners' performance in Mathematics. This finding also supports Alomar (2006), view that highly educated parents know the learning requirements and had the opportunity to create the best educational environment for their children. The view is also in line with Cross *et al* (2009) that parents level

of expectation, and their provision of an encouraging environments can increase the potential development of their children mathematical knowledge and skills. Therefore, it is important that educators have an understanding of learner's and parent's backgrounds in order to assist them to adequately determine the best learning methods for learners and how to involve parents in their education.

However, the result is contrary to the view of Moeketsi (1998) who argues that there is no significant relationship between parental education and academic achievement of learners. In his view, parental education tends to play a strong indirect role in how the children are raised, yet, parental education levels may not always affect children's performance directly. Nonetheless, Constantino (2007) argue that parents that have high education degrees are typically more involved in their children's academic careers, hence, placing more emphasis on academics than those parents with lower education degrees and less involvement in their children's education.

Notably, parents with less formal education and low-income tends to be preoccupied with survival strategies and thus either focus inward on the family, or time does not permit them to pursue home school involvement strategies that may improve child's schooling. In addition, Demir, Kilic, and Unal (2010), concurs that students whose parents are highly educated and exposed to Mathematics before in their lives, tend to show more success in subject Mathematics than their peers whose parents were less educated and not being exposed to Mathematics. This is because highly educated parents know the learning requirements and have the opportunity to provide the best educational environment for their children (Alomar, 2006).

In the same vein, literature has indicated consistently that parent education is important in predicting children's success in the educational system. Children's education can be influenced in different ways by parents' education, such as: the means of transmission of cognitive competencies, by increased opportunities, and by the transmission of parental beliefs and attitudes concerning the value and effectiveness of education. A direct or indirect, view of parents on school and education has observed by children may affect children's views through processes as parents' engage in cultural or educational activities (Noack, 2004). It is clear

that to some degree parents play a key role in the shaping of educational aspirations in their children.

□ **Communication and Learners' Academic Achievement in Mathematics**

The results showed that there was no significant relationship between the extent of communication and learners' achievement in Mathematics. This means that parents' extent of communication is not associated with learners' academic achievement in Mathematics, implying that parents' extent of communication will not determine learner's achievement in Mathematics. This finding is in line with Olender, Elias and Mestroleo (2010) study that argues that, issues such as parents work schedule, hours spent at jobs, attention for other children at home among many other things might pose a challenge to parent-school or teacher communication, and further suggests that; parents must be given a place in the educational system if they are genuinely recognized as partners in the education of their children.

On the contrary, studies agree to the fact that constant communication between home and school is important to effective parent involvement in children's education (Evans, 2004; Graham-Gray, 2002). In addition, for the sake of the child, it is important for both parents and teachers to exchange ideas, and learn from each other during regular, open, two-way communication. Globally, the use of direct communication between parents and teachers in schools usually is through the parent-teacher conference. Van Deventer and Kruger (2008) and Lemmer, (2013) in their studies indicated regularly also that there is a significant relationship between learners' success and home-school partnership. Complementarily, Kowalski (2011), affirmed that good relating skills between educators and parents helps to form an effective partnership in school, while supporting attitudes of truth, respect and understanding establishes an effective communication. Furthermore, an effective communication has been defined as a process of sending the right message, correctly received and meaningful to the recipients. Not only does it deliver information, it also encourages effort, changes attitudes, develops and sustains relationships (Bender, 2005). In other words, effective communication strengthens the management process, holding it together. Parents and teachers

should avoid apportioning blame and not to disregard each other in their relationship as partners in education, but rather promote better communication.

Therefore, a network of communication should be encouraged between the Mathematics teacher and parents regarding the children's progress, making learner to benefits from the support of the two sides. Studies agree to the fact that constant communication between home and school is important to effective parent involvement in children's education (Evans, 2004; Graham-Gray, 2002). There is a two-way communication when educators and parents dialogue together, and that effective dialogue develops from a growing trust, a mutuality of concern, and an appreciation of contrasting perspectives. The process of sharing information through continuous dialogue is very vital in building partnerships. It has been observed that, communication across schools, homes and communities involve commitment to be informed as well as to inform (Lemmer & Van Wyk, 2009; Wright, Stegelin & Hartle (2007).

Usually, schools share information about events such as curriculum, schedules, routines, discipline, guidance, strategies, rules, philosophy of teaching and child progress. Reciprocally, families may also share information about their perception of their children's personality, previous experience, health, strength and needs and their personal goals for their children. The most important thing for all involved is to find communication strategies that will get to all. Hence, it is important to improve the quality of communication to nurture positive and strong partnerships with families.

Unfortunately, many communications with families have been planned to be one way and parent conferences are still in old-fashioned style of one-way communication with teachers', readymade development report to be distributed to parents dominated by teachers reporting on a child's academic progress (Keyser 2006). DePlanty et al. (2007) suggested that the school should aim at encouraging parents to be involved in the activities of the school. Schools can do this in different ways like organizing workshops that focus on the benefits of parent involvement, and the parent behaviours that are most important in academic success of their children, sending brochures or pamphlets home, educating parents about parental involvement, and by talking with parents about involvement during parent-teacher conferences. The engagement between teachers and parents will yield good

results; because in the process they will help each other to find strategies that will assist the students in the classroom.

5.5 Educational Implications of the Findings

Various studies have indicated that a large number of parents love to help their children if they are informed about their children's academic challenges (Epstein, 1995). In a bid to improve learners' scores in Mathematics courses, policy makers and educators could employ strategies that involve parents' participation in their children's education. Thus, results from this study can help administrators and educators to put in place effective strategies in enhancing learners' achievement. For example, a school head can make all educators to create a file showing the how involved each child's parent is in their child education. At district level, social workers may be employed to be in charge of monitoring parental involvement in their children's education.

Furthermore, in this study, multiple measures were used to examine parental involvement in areas such as parenting styles, parental home support, family structure, parental educational background and communication, and this has showed parental involvement to be an important variable in children' education. It is therefore, very important to all stakeholders in the educational sector to have better understanding of the types of involvement with the most impact on learners' performance. From other studies, parental involvement has shown to be a powerful tool in child's education. Therefore, it is expected that the results of this study will give parents and educators a better understanding of how particular kinds of parental involvement affects children's performance.

Again, despite the fact that there was a relationship between parental involvement and student's academic achievement, parental involvement is somehow low in many schools. Teachers should continue to play the important roles in motivating parent to collaborate with schools, educating parents on the importance, and relevance of their involvement in their children's education, and creating ideas that can empower parents. Teachers need to be knowledgeable about the type of involvement that can be effective. Teachers and school administrators may work together to create a positive and welcoming school environment that can help to instil positive attitude in parents, students, and teachers as well. Importantly also,

the teachers could sensitise parents on parenting styles and the likely impact of each style on their children both at home and school.

5.5 Implications for Theory and Practices in the Field of Mathematics

According to Maliki, Ngban and Ibu (2009:131), the development of man's social, economic, political, geographical, scientific and technological are centered on proper education humans acquire – especially in numerical disciplines such as mathematics. Study added that there is no social, political, or economic problem you can solve without adequate education (Lyman, Strachan & Lazaridou, 2012). In addition, Tella (2007) also argued that economic development of every modern economy would largely depend on the strides made by such economy with regard unearthing and developing appropriate industrial and technological skills among its general populace or human resource capital. This might be achieved by advancing a successful mathematics school curriculum beyond the current status where mathematics education is continuously performing poorly.

According to Tella (2007), the current state of mathematics in schools might be impeding to attaining progress towards attaining expected industrial and technological development and advancement of the economy. It is evident that based on both Maliki et al. (2009:131) and Tella (2007), the subject mathematics as taught and learned in the majority of formal school systems the world over is therefore crucial and fundamental for improvement and development of human life. However, academic achievement challenges in shaping the next pious and smart generations are not only the responsibility of the government as the policy maker but also the responsibility of the teachers who teach them at school. Also, positive impacts of parental involvement on student academic outcomes have not only been recognized by school administrators and teachers, but also by policy-makers who have interwoven different aspects of parental involvement in new educational initiatives and reforms (Graves and Wright 2011; Larocque, Kleiman, and Darling 2011; Topor et al. 2010).

While academic success in terms of higher achievement has long been thought to be the path to a stable livelihood and a successful future (Boon, 2007), higher levels of academic performance have been found when parents are involved in their child's education (Mandara, Varner, Greene, & Richman, 2009). The

significance of parental involvement on academic achievement for learners has also been noted among policymakers with an objective to improve parent involvement through wider educational policy initiatives (Howard & Reynolds, 2008). Although there are likely many factors that influence academic success such as peer relationships, school environments, and parental involvement may be an important influence on academic success.

It then implies that every stakeholder, including parents, teachers, administrators and policy makers, need to work together to improve the teaching and learning of Mathematics at school. It must then be emphasised that all stakeholders in the learners' education must rise to the challenge by performing their assigned role appropriately in order to achieve the desired goal. The educators must recognize their shared interests and responsibilities for children; they need to see learners as children, and this will in turn help them to see both the family and community as partners with the school in the children's education and development. They should then work together to create better programmes as well as opportunities for the children (Epstein, 2001; 1995). As stated above, in the contexts of this theory, the home, school and community are uniquely overlapping and influences the children jointly through the interactions of the parents, educators and community partners as well as of the children across the contexts. For example, teachers who recognise the relevance of parents and hold them in high esteem are more likely to design and conduct interactions and activities that accommodate the roles parents play in the education of their children.

Likewise, parents' better understanding of teachers' work and the school's goals for their children will enable them to communicate with the school and take time to organize home activities that assist their children as learners (Epstein, 1987). The debates surrounding this discussion further state that the improvement of Joyce Epstein on the 'Theory of Overlapping Spheres of Influence' is paramount and suggest that partnership between parents, educators and others in the community to guide and support the children's learning and development help children to learn better (Epstein et al, 2009; Epstein & Sanders, 2006; Epstein & Sheldon, 2006). Epstein's 'Theory of Overlapping Spheres of Influence' help as a means to examine how future teachers and administrators are equipped to understand shared leadership in schools, including the educators' shared responsibilities with

families and communities to get the most out of the learners' learning (Epstein & Sanders, 2006; Epstein, 2001).

5.6 Limitations of the Study

Simon (2011), views study limitations as potential weaknesses or characteristics that are beyond the researcher's control. Every research has its limitation; likewise, this study had its limitations. Hence, the limitations need to be considered as we interpret the findings and propagate ideas regarding the conclusion. In undertaking this study, there was time limitation. The time allowed to collect data in participating schools was not adequate due to the fact that it was a busy period for both learners and teachers. Furthermore, financial constraints and safety were another limitation. The researcher could not extend the data collection process, because the researcher had to avoid huge travelling expenses, security and time saving purposes. The study was also constrained due to lack of enough funding and other related resources.

5.7 Conclusion

It is evidently clear that in academic achievement of students, parental involvement plays a significant role, especially in early grades. Hence, this study explored the issue of relationship between parental involvement and grade 8 learners' academic achievement in Mathematics. Although, lots of research has been done in some aspects of parental involvement, yet, it is obvious that there are more facets to be explored. In this study, the overall trends indicate that parents' responsibility for their children learning of Mathematics should not be primarily teachers' responsibility, neither solely parents' but, should be equally shared equally responsibility between the two institutions that is, family and school. This is more important especially in South Africa, at this time when teachers are faced with changing curricula, implementation of various non-traditional instructional approaches, differentiated instruction, large class sizes, and increased expectations from district and province offices. Specific parental involvement such as parenting styles, family structure, home support, parental educational background, and communication, were reviewed and identified as essential for supporting positive Mathematics outcomes in learners' academic achievement.

An attempt at the definition of parental involvement was also made while various views about the significance of learners' transition phase of development were reviewed, more importantly in early grades such as grade 8, when a child is transiting from primary school to high school. Hence, understanding the different forms and levels of involvement needed both in and out of schools, is very important in building and strengthening the relationship between parental involvement and learners' academic achievement in school. Consistent with the central argument of this thesis, gathered evidence supports the importance of parental involvement in children's education. Therefore, a parent community could represent a highly valuable teaching resource, one that embraces the equal partnership-focused parental role. Therefore, all stakeholders, teachers, staff members, administrators in schools, districts and provinces not only need to recognize the importance of these partnerships, but also put resources behind initiatives that support the professional development and implementation of these practices. The paradigm of families and communities that schools serve needs to shift from one that is focused on lack to one that is focused on strength.

5.8 Recommendations

The following recommendations have been made on the basis of the findings of this study:

- Based on the results of this study, it is recommended that education policy makers should put more resources on early education, especially kindergarten entry level, since Mathematics learning skills and habits are developed at an early stage and will not only affect children's current Mathematics scores, but also in future.
- School units especially kindergartens are encouraged to build close relationships with mothers to communicate the required Mathematics learning skills for children, and to cooperate in school-parents' programs to prepare children with a solid Math learning skill set.
- This study suggests that policy makers should provide more programs to equip mothers with education knowledge and resources to support their children at an early age.
- On the other way round, parents seem more willing to get involved when learners are still young or when learners have special needs. If this type of

involvement can be emulated in high schools, the efficacy of our school system should show great improvement.

- Policy promoting parental involvement, including courses on working with parents and families in all teachers' education programmes should be in place. This will provide teachers with skills to work effectively with parents.
- Parental involvement course could be introduced as a compulsory course in our teachers' education programmes in order to prepare teachers to adequately work effectively with parents.
- This study has direct implication to counsellors and psychologists in that as the background of the learners are known, and the academic problems of individual learners linked to the home are understood, counsellors will be well equipped to do their job of counselling, to both learners and parents more effectively.
- Professionals in education should come up with more effective practices on the subject of parental involvement in education to optimize the impact of this important aspect of the education process.
- Parents should understand the significance of the mathematics foundation they set to their children, and the needs for them to communicate positively about the importance of mathematics education.
- Parents should complement teachers' efforts in school by monitoring and supervising their children's academic activities in order to improve mathematics achievement.

Lastly, in our attempt to convince the school teachers of the value of schools, families, and community partnerships, future research needs to forge more explicit connections between family and community engagement with learners learning. Teachers should be able to access this information and be provided with guidance as to how to go about implementing effective practice of parental involvement.

5.9 Recommendations for Further Research

This study only examined the relationship between parental involvement and grade 8 learners' academic achievement in Mathematics. Future studies can be conducted on other subjects such as English, Chemistry and Physics, and on another grade as well.

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Appendix 1: Ethic Clearance Certificate



University of Fort Hare
Together in Excellence

ETHICAL CLEARANCE CERTIFICATE REC-270710-028-RA Level 01

Certificate Reference Number: ADU151SFOL01

Project title: The relationship between parental involvement and Grade 11 students' mathematics achievement in Algebra.

Nature of Project: PhD in Education

Principal Researcher: Eesuola Omobola Foluke

Supervisor: Prof E.O Adu

Co-supervisor: N/A

On behalf of the University of Fort Hare's Research Ethics Committee (UREC) I hereby give ethical approval in respect of the undertakings contained in the above-mentioned project and research instrument(s). Should any other instruments be used, these require separate authorization. The Researcher may therefore commence with the research as from the date of this certificate, using the reference number indicated above.

Please note that the UREC must be informed immediately of

- Any material change in the conditions or undertakings mentioned in the document
- Any material breaches of ethical undertakings or events that impact upon the ethical conduct of the research

The Principal Researcher must report to the UREC in the prescribed format, where applicable, annually, and at the end of the project, in respect of ethical compliance.

Special conditions: Research that includes children as per the official regulations of the act must take the following into account:

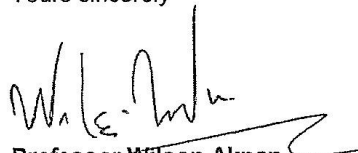
Note: The UREC is aware of the provisions of s71 of the National Health Act 61 of 2003 and that matters pertaining to obtaining the Minister's consent are under discussion and remain unresolved. Nonetheless, as was decided at a meeting between the National Health Research Ethics Committee and stakeholders on 6 June 2013, university ethics committees may continue to grant ethical clearance for research involving children without the Minister's consent, provided that the prescripts of the previous rules have been met. This certificate is granted in terms of this agreement.

The UREC retains the right to

- Withdraw or amend this Ethical Clearance Certificate if
 - Any unethical principal or practices are revealed or suspected
 - Relevant information has been withheld or misrepresented
 - Regulatory changes of whatsoever nature so require
 - The conditions contained in the Certificate have not been adhered to
- Request access to any information or data at any time during the course or after completion of the project.
- In addition to the need to comply with the highest level of ethical conduct principle investigators must report back annually as an evaluation and monitoring mechanism on the progress being made by the research. Such a report must be sent to the Dean of Research's office

The Ethics Committee wished you well in your research.

Yours sincerely


Professor Wilson Akpan
Acting Dean of Research

15 December 2016

Appendix 2: Permission Letter



STRATEGIC PLANNING POLICY RESEARCH AND SECRETARIAT SERVICES

Steve Vukile Tshwete Complex • Zone 6 • Zwelitsha • Eastern Cape
Private Bag X0032 • Bisho • 5605 • REPUBLIC OF SOUTH AFRICA
Tel: +27 (0)40 608 4773/4035/4537 • Fax: +27 (0)40 608 4574 • Website: www.ecdoe.gov.za

Enquiries: NY Kanjana

Email: nykanjana@live.co.za

Date: 27 February 2017

Ms. Omobola Foluke Eesuola

P.O. Box 1005

Amalinda

East London

5200

Dear Ms. Eesuola

PERMISSION TO UNDERTAKE A DOCTORAL THESIS: THE RELATIONSHIP BETWEEN PARENTAL INVOLVEMENT AND GRADE 11 STUDENTS' MATHEMATICS ACHIEVEMENT IN ALGEBRA

1. Thank you for your application to conduct research.
2. Your application to conduct the above mentioned research at nine Secondary Schools under the jurisdiction of East London District of the Eastern Cape Department of Education (ECDoE) is hereby approved based on the following conditions:
 - a. there will be no financial implications for the Department;
 - b. institutions and respondents must not be identifiable in any way from the results of the investigation;
 - c. you present a copy of the written approval letter of the Eastern Cape Department of Education (ECDoE) to the Cluster and District Directors before any research is undertaken at any institutions within that particular district;
 - d. you will make all the arrangements concerning your research;
 - e. the research may not be conducted during official contact time;
 - f. should you wish to extend the period of research after approval has been granted, an application to do this must be directed to Chief Director: Strategic Management Monitoring and Evaluation;

building blocks for growth

Page 1 of 2



Ikamva eliqaqambileyo!

Appendix 3: Permission to conduct research 1



02/09/17

Att. Ma Eniola Onobola Foluke
26 Barbados Crescent
Haven Hills
Amslanda
East London

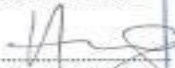
Dear madam,

Re: Permission to conduct academic research

Following your request to conduct a research on Algebra among grade 8 learners and their parents, I am pleased to inform you that permission has been granted you. I believe that the findings of your research will be beneficial to our school on how we can improve in mathematics. In that regard, you are requested to give the School written feedback at the end of your research.

You can come to school when it is convenient for you, before we start the mid-year exams so that we can arrange the date and time when you will be meeting the grade 8 classes.

Yours in service


Mr. KAMUGISHA
(DEPUTY PRINCIPAL)



Appendix 4: Permission to conduct research 2



QQAQAMBA SENIOR SECONDARY SCHOOL
SOPHAKAMA NGOKUZINCEDA

P.O. BOX 114
KWA - LOYITI
DUNCAN VILLAGE
EAST LONDON
TELEFAX: 043 753
2277

Att: Ms. Eesuola ,Omobola Foluke
26 Barbados Crescent
Haven Hill
Amalinda
14/03/2017

Dear E.O.Foluke

Re: Permission to conduct a research

Dear Ms E.O. Foluke , I hope this communiqué will find you well. Following your request to conduct a research in our Grade 8 Maths classes, we wish to inform you that you have been accepted, subject to your willingness to furnish the school principal with a copy of your findings and recommendations made. Our office will abide by the expected confidentiality with regard to areas you have raised to be confidential.

Secondly prior arrangements will have to be done whenever you decide to visit our school.

Wishing you all the best in your endeavours.

Yours Faithfully

L.M. Lugodlo (Principal)
0783216476



Appendix 5: Parental involvement questionnaire

PARENTAL INVOLVEMENT QUESTIONNAIRE Dear respondent,

INTRODUCTION

This questionnaire is designed to assist the researcher to determine the relationship between parental involvements and grade 8 students' Mathematics Achievement in Algebra in East London.

As you are answering the questions, please consider the following: • Please answer each question as truthfully as possible. • Consider your beliefs and actions for this year's grade 8 student only. • Please answer each question. Do not leave any blank. Each response shall be treated with confidentiality it deserves.

SECTION A: Socio- Demographic Information

Please tick () in the appropriate boxes

1. Sex: (a) Male () (b) Female ()
2. Age:
3. Religion: (a) Christianity () (b) Islam () (c) Traditional ()
4. Grade:
5. Family size: (a) 2 () (b) 3- 4 () (c) 4 – 6

SECTION B: Family Structure

6. What is the total number of people living in your household? (a) 1-3 () (b) 4-6 () (c) 7 -10 () (d) more than 10 ()
7. Do members of your family contribute positively towards your academic development? (a) Yes () (b) No () (c) Indifference () (d) No information ()
8. What type of accommodation do you live in? (a) one-room () (b) one-bedroom apartment () (c) two-bedroom () (d) three-bedroom ()
9. What is your parents' marital status (a) single parent () (b) married () (c) divorced () (d) separated()?
10. What is your parents' form of marriage? (a) Same sex marriage () (b) cohabitation () (c) marriage between opposite sexes ()

Read each statement carefully and indicate your level of agreement or disagreement on the modified five points Likert – scale provided.

Please use the following scale for questions in sections C - G: SA- strongly Agree; A- Agree; N – Neutral; SD- Strongly Disagree; D- Disagree

SECTION C: Parental Involvement

		SA	A	N	D	SD
1	My parents attend school performances or other functions that am involved in at school.					
2	My parents monitor the way I spend my time outside of school					
3	My parents believe that education is important for me					
4	My parents take responsibility for my academic achievement					
5	My parents are familiar with my school programs					

SECTION D: Communication

		SA	A	N	D	SD
1	My parents exchange notes or phone calls with my teachers regularly					
2	My parents read, respond, if needed, to all notices, newsletters, etc. from my school.					
3	My school environment is friendly to learners. Parents and families.					
4	My parents receive regular updates from my teachers/school on my progress					
5	My school get back to my parents on any concern about me.					

SECTION E: Home support

		SA	A	N	D	SD
1	My parents encourage reading time with time table for me to follow at home					
2	My parents check my homework to make sure it is completed correctly.					
3	Creating a conducive environment at home to study is my parents' responsibility					
4	My parents supply me with the supplies I need (pencils, paper, notebooks, etc.).					
5	My parents always counsel me about going to university after Matriculation					

SECTION F: PARENTING STYLES

		SA	A	N	D	SD
1	My parents monitor the way i spend my time outside of school					
2	My parents maintain clear rules for me to obey.					
3	My parents believe that it is the teacher's job to let them know if I have any behavioural concern.					
4	My parents discipline me as and when due					
5	My parent monitors my academic progress by checking my agenda and weekly papers.					

SECTION G: PARENTAL EDUCATIONAL BACKGROUND

		SA	A	N	D	SD
1	My parents understand the grading scale used on my report card					
2	My parents are active participants in my learning					
3	My parents have difficulty understanding my homework					
4	My parent supports my school programme like civics, award day, end of the year activities, open day etc.					
5	My parents encourage me to perform well in Mathematics always					

Appendix 6: Certificate of Editing

CERTIFICATE OF EDITING



To whom it may concern

This document certifies that the dissertation whose title appears below was edited for proper English language usage, grammar, punctuation, spelling and overall style by Dr Anthony Masha who is a member of the Professional Editors' Group and whose academic qualifications appear in the footer of this document.

DISSERTATION TITLE

PARENTAL INVOLVEMENT AND GRADE 8 LEARNERS' ACADEMIC
ACHIEVEMENT IN MATHEMATICS: A STUDY OF SELECTED SCHOOLS IN EAST
LONDON, SOUTH AFRICA

RESEARCHER

EESUOLA OMOBOLA FOLUKE

DATE EDITED

December 2017

Editor's comment

All mistakes relating to grammar, punctuation, spelling and overall style have been corrected. The editor was not responsible for conducting a cross-referencing check.

B.A (Ed), Honours B.A. (Social Sciences), Honours B.A (Group Dynamics), Postgraduate Diploma in Education,
M.A.DMIN (Public Administration), Doctor of Administration in Public Administration