Emotional Intelligence, Parent Involvement, Peer Group Influence and Performance in Mathematics: A Technical Review

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ABSTRACT
Nigeria educational system has paid little or no attention to creativity in the performance of Nigeria secondary school students in mathematics due to planning and methodology adopted in most public and private schools by educational administration. This is manifesting frequent inability of the school age children to come up with ideas on their own. Efforts is required to promote creativity in the performance of Nigeria secondary school students, by recognising the factors of emotional intelligence, parent involvement, and peer group influence to improve creativity potentials in mathematics among secondary school students up to the tertiary level which will also help Nigeria technologically and the rate of unemployment. The current state of education in Nigeria as evidenced by secondary school students’ performance in mathematics has been worrisome. The low performance especially in terminal classes and national examinations has generated much concern for stakeholders in education. Varied problems might be responsible for this poor performance which include but not limited to emotional intelligence, parent involvement and peer group influence. It is against this background that this paper sought to review the influence of emotional intelligence, parent involvement, peer group influence and performance in mathematics.

INTRODUCTION
Education at secondary school level is supposed to be the bedrock and the foundation towards higher knowledge in tertiary institutions. It 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 National Policy on Education stipulated that secondary education is an instrument for national development that fosters the worth and development of the individual for further education and development, general development of the society and equality of educational opportunities to all Nigerian children, irrespective of any real or marginal disabilities. The family is the primary socializing agent of which a child is a member since it is in the family the child is born. One may rightly say that the family is the informal socializing agent since all its members are blood relations. At this junction, it must be clearly known that families differ vastly in terms of their significance in social order as some have more prestige, dignity, money and power than others. Parental attitude is a measure or an index of parental involvement. A child, brought up with affection and care in the least restrictive environment would be able to cope up better with the sighted world. Therefore, the family shapes the social integration of the child more than a formal school. Turnbull (1983) has identified four basic parental roles- parents as educational decision makers; parents as parents; parents as teachers...
and parents as advocates. Since the parents’ attitudes are so important, it is essential that the home and school work closely together, so as to achieve better academic performance especially in their mathematics.

The education of secondary school students is of utmost importance to the development of a nation. Therefore, academic performance especially in mathematics is the best legacy a country can give to her secondary school students. This is evidence in the adoption of education as an instrument “par excellence” for effecting national development as contained in the National policy on education. Every nation looks up to those who achieve academically to occupy significant positions in order to improve the society. Secondary school students who are academically successful especially in mathematics and with high levels of education are more likely to be employed and enjoy stable employment; have more employment opportunities, earn higher salaries, more likely to be less dependent on social assistance, less likely to engage in criminal activity, more active as citizens and charitable volunteers. As such parents, teachers, students as well as the society are concerned about the outcome of any academic activity. Parents are most especially worried when their children do not achieve academically. Parents therefore put in their best by ensuring that children achieve academic excellence by offering psychological support, helping with homework, monitoring the amount of time spent on study, emphasis the value of reading books.

It is clear from a number of literatures that peer group has an influence on academic performance but what is not agree upon is to what extent and the variables within that influence. Other researchers suggest that it is difficult to examine links between peer influence and functioning (Galambos, Barker, and Almeida, 2003). Although Fuligni et al. (2011) discovered that the development of close friendships is a necessary and normative part of adolescence and friendships are vital to the development of behaviours and values of secondary school students. Parents can still have an effect on the way their adolescents deal with the demands and expectations of their peers.

Academic performance is undoubtedly a research after the heart of stakeholders in the education sector. In an attempt to investigate what determines academic performance of learners, they have come with more questions than answers. In recent time, prior literature has shown that learning outcomes (academic achievement and academic performance) have been determined by such variables as; family, school, society, and motivation factors (Adeyemo, 2005). In spite of the seeming exhaustiveness of literature on the determinants of academic performance of learners, there seems to be more area of interest to be investigated. This becomes obvious in view of the continue interest of researchers and Educational psychologists; and the continued attention of government and policy makers and planners. Academic performance (most especially of secondary school students in mathematics) has been largely associated with many factors.

OVERVIEW OF PERFORMANCE OF STUDENTS IN MATHEMATICS

WAEC RESULTS STATISTICS (2018) via National Bureau of Statistics (NBS) revealed the low performance in mathematics among Nigeria secondary school students in both private and public examinations in both Sokoto state and Nigeria as a whole. Secondary school students in Sokoto state did not score up to 22% (5 Credits and above including Mathematics and English) in the private examination and not score up to 35% (5 Credits and above including Mathematics and English) in the public examination. It
was also revealed from the statistics that Nigeria secondary school students did not score up to 34% (5 Credits and above including Mathematics and English) in the private examination and not up to 49% (5 Credits and above including Mathematics and English) in the public examination.

The performance of secondary school students in mathematics in external examinations conducted by the West African Examinations Council, the National Examination Council and NABTEB has not only been poor but also been a serious concern to stakeholders. According to Adeyemi (2011) submitted that available statistics revealed a failure rate of 75 per cent in the case of WAEC and a similar percentage in the case of NECO. Performance of Nigeria secondary school students in mathematics is the outcome of education. It represents performance outcomes that indicate the extent to which secondary school students have accomplished specific goals that are the focus of activities in instructional environments. It is one of the major goals of secondary school students and it plays a very important role in their lives. Performance of Nigeria secondary school students in mathematics as measured by the standardized examination set by the Nigeria ministry of education at the end of secondary school determines whether secondary school students will have the opportunity to further their studies after sitting for the West African Examination Council (WAEC) and the National Examinations Council (NECO).

Academic performance of Nigeria secondary school students in mathematics is of utmost importance for the wealth of a nation and its prosperity (Anja, 2014). Giving the secondary school students and societal importance of their academic performance, it is not surprising that the knowledge of the factors that influence the outcome of this performance especially in mathematics are to be clear to the educators, parents, students and the society so that the standard of their academic performance could be enhanced. Most students in secondary schools in Nigeria are daily confronted with challenges of coping with their academics under serious emotional strains occasioned by long walk to school, poor school environment, and being taught by unmotivated teachers. Couple with these, is the nonchalant attitude of parents who more often than toil to provide for the needs of the family. These would definitely not augur well for academic performance of secondary school students in mathematics.

EMOTIONAL INTELLIGENCE AND PERFORMANCE IN MATHEMATICS

In recent time, prior literature has shown that academic performance of secondary school students in mathematics has been determined by such variables as; family, school, society, and motivation factors. In the beginning, psychologists focused on cognitive constructs like memory and problem solving in their first attempt to write on intelligence. This did not last long before researchers begun to challenge this orientation and recognized that there are other non-cognitive aspects of intelligence (Imbrosiano and Berlach, 2003). Emotionally intelligence is a wise behaviour. To behave wisely requires the synergistic effect of the emotional mind with the cognitive mind. Thinking and feeling are not totally independent processes, and emotionally intelligent behaviour requires harmony of minds. The emotional mind makes many positive contributions to academic performance of secondary school students in mathematics, productivity, and their mental/physical health. There are some important educational applications of emotional intelligence (Adeyemo, 2005).

Emotional intelligence, as measured by our academic performance instruments, is a series of interrelated skills and competencies. It provides valid and reliable measurements of interpersonal skills (assertive communication), self-management skills (time management, goal achievement,
commitment ethic, and personal responsibility), and the intrapersonal skills of self-efficacy and stress management. The general factors assessed may be thought of as indicators of constructive thinking, goal achievement, and personal responsibility or effective self-management (Salovey and Mayer, 1990). It is important to note that the emotional intelligence skills as measured by the academic performance instruments are general measures of effective cognitive functioning. Unlike traditional measures of intelligence (scholastic aptitude, achievement) and traditional measures of personality, the assessments provide information about how a student is actually applying cognitive behavioural skills in daily life. The measured emotional intelligence skills are extremely important to academic performance, retention or program completion, and effective interpersonal and transformative learning in academic excellence intrapersonal behaviours. Developing these skills will improve a student’s performance in not only mathematics in secondary schools but also in their works and lives (Salovey and Mayer, 1993).

Imbrosciano and Berlach (2003) have remarked that “success” may be viewed in three main domains. A good secondary school student is often referred to as being “intelligent”, or “well behaved”, or “academically successful”. Arising from this are the questions: Are there any connection between these domains? Is there a strong connection, between intelligence and academic performance in mathematics? Do secondary school students with high intelligence behave better? These and many more questions underscore the important place intelligence has been found to play in academic performance of secondary school students in mathematics. Goleman (1995) gave a short answer when he asserted that success depends on several intelligences and on the control of emotion. Specifically, the author stressed that intelligence quotient alone is no more the measure of success. According to him intelligent account for only 20% of the total success, and the rest goes for Emotional and Social intelligences. Abisamra (2000) then queried that if this is found to be so, why the teachers do not begin to teach the components of emotional intelligence to secondary students at schools? The researcher then concluded that if emotional intelligence affects student performance in mathematics, then it is imperative for schools to integrate it in their curricula and thereby raising the level of students’ success in the subject.

According to Salovey and Mayer (1990), Emotional Intelligence is being able to monitor one’s own and other’s feelings and emotions, to discriminate among them, and to use this to guide one’s thinking and actions. Again, Salovey and Mayer (1993) wrote that an emotionally intelligent person is skilled in four areas: identifying, using, understanding, and regulating emotions. These will assist the performance of secondary school students in mathematics and other way of lives. Similarly, Goleman (1995) also stressed that emotional intelligence consists of five components: Knowing one’s emotions (self-awareness), managing them, motivating self, recognising emotions in others (empathy), and handling relationships. In recent times therefore, social scientists and educational psychologists are beginning to uncover the relationship of emotional intelligence to other phenomena. These are: leadership, group performance (Williams and Sternberg, 1988) and academic achievement (Abisamra, 2000). The foregoing attest to the significance of emotional intelligence to all constructs (school achievement inclusive). As a matter of fact, emotional intelligence has recently attracted a lot of interest in the academic literature.

Specifically, Abisamra (2000) argued that school should help students learn the abilities underlying the
emotional intelligence. The researcher is of the opinion that this could lead to achievement from formal education years of the child. In a study conducted by Weis and Sub (2007), they discovered that various emotional and social competencies were strong predictors of academic success. Similarly, the researchers found emotional intelligence to be significant predictors of academic success. In the same vein, Low and Nelson (2004) reported that emotional intelligence skills are key factors in the academic achievement and test performance of high school and college students respectively. Likewise, Abisamra (2000) reported that there is a positive relationship between emotional intelligence and academic achievement. The researcher therefore canvassed for inclusion of emotional intelligence in the schools’ curricula. Cotton and Wikeland (2005) argued that any investigation of the potential effects of emotional intelligence on academic performance must be pursued in a specific context. In essence, the importance of emotional intelligence on academic performance especially in mathematics has been found to be very significant.

PARENT INVOLVEMENT AND PERFORMANCE IN MATHEMATICS

The education of an individual begins from home and continues in school. In fact, the importance of the home in education of a child has long been recognized worldwide through research. The knowledge of mathematics education is an indispensable tool. Parents are very important instrument for an effective communication of any knowledge, mathematics in particular. In the effort to improve students’ cognition and affective outcomes in mathematics and other school learning, educational psychologists and mathematics educators, have continued to search for variables (personal and environmental) that could be manipulated in favour of academic gains.

The differential scholastic achievement of students in Nigeria has been and is still a source of concern and research interest to educators, government and parents as well. This is so because of the great importance that education has on the national development of the country. All over the country, there is a consensus of opinion about the fallen standard of education in Nigeria (Adebule, 2004). Parents and government are in total agreement that their huge investment on education is not yielding the desired dividend. Parental involvement in education included contribution to their children’s home-based activities (helping with home-work, encouraging children to read, and promoting school attendance) and school-based activities attending Parent Teachers’ Association meetings, parent-teacher conferences, and participating in fund raising activities). Hixon (2006) explained that involvement of parents and families is often cited as one of the most important ways to improve performance of Nigeria secondary school students in mathematics. Parental involvement makes an enormous impact on the student’s attitude, attendance, and academic achievement and it promotes better cooperation between parents and school. It also allows parents and teachers to combine efforts to help the children succeed in school.

Epstein (1995) identified six areas of parental involvement in their children’s performance in mathematics: parenting, communicating, volunteering, learning at home, decision making, and collaborating with the community. If parents are actively involved in these areas, no doubt it will stimulate children’s interest in school and positively influence academic performance in mathematics. Parental involvement cannot work alone to influence school outcomes. The cooperation of students with their parents and teachers can be very valuable. A student should be willing to learn, take interest, and participate fully in academic
activities before he or she can benefit from school. Sarason (1983) observed that schools are no longer interesting places for most of the students; however, this type of observation may vary from place to place or even from school to school in a particular area. Morakinyo (2003) also noted that many students now take more interest in a certificate than in what they can gain in school because of the scourge of examination malpractices and over-emphasis on paper qualification.

The role of secondary education is to lay the foundation for further education and if a good foundation is laid at this level, there are likely to be no problem at subsequent levels. However, different people at different times have passed the blame of poor performance in secondary school to students because of their low retention, parental factors, association with wrong peers, low achievement, low retention, low achievement motivation and the likes (Aremu and Sokan, 2003) Parental involvement and interest are important factors that determines individual out look towards anything in life. Parents’ involvement is said to be more positive among people of higher level of socio-economic status. Ichado (1998) notes that the environment in which the students come from can greatly influence his performance in school. Uche (1982) stated that, many parents in Nigeria are too poor to provide their meals a day for their family, let alone to buy text-books for their children and other necessary school requirement. When things like this happens, academic performance is expected to be low.

Parents involvement are said to be the most important mentors and teachers in a child’s life. Comer (2005) cited the importance of parental support from the early childhood years and highlights the influence of parent and community involvement in the performance of Nigeria secondary school students in mathematics. The impact of parents’ involvement on the performance of secondary school students in mathematics can be felt from different parenting style. Some parenting style cause low parent support or no support like uninvolved parenting style, and some create high support like authoritative and authoritarian parenting style. The authoritative and authoritarian parenting style parents are involved in the activities of their children, both cause parents’ pressure. The authoritative parents’ children want to fulfill the parent’s expectations, keep them happy and satisfied and the authoritarian parents’ children feel forced to fulfill parents’ expectations to avoid punishment.

The parenting style affects the academic performance of secondary school students in mathematics. High parent support may result to high academic performance in mathematics and low parent support may be the reason of low academic performance in mathematics. It is unfortunate that many parents do not understand their role in the academic performance of their children, seeing their children’s education as solely schools’ responsibility. If parents do not seem to care about learning, their children will pick this attitude (Koskel, 2014). Parents who are uneducated or feel uncomfortable in the school environment, may not know how to partner with teachers.

Koskel (2014) states that parental involvement on academic performance of secondary school students in mathematics play a crucial role in the development of both social and cognitive competence in them. The researcher observes that infants who lack parental involvement are associated with aggressive behaviours and low self-esteem. The family support and involvement to their children is an important predictor of high academic performance of secondary school students in schools especially in mathematics. Research shows that involvement and attentive parenting practices affect academic performance in mathematics (Eamon, 2005). In addition, high parent
aspirations have been associated with increasing students’ interest in education (Majoribanks, 2005). However, some literatures are of the opinion that parental support in school has been linked to both positive and negative influences on academic performance (Domina 2005, McNeal 2001). It is thought that the type of support may make a difference and that in some cases parents become involved after their children has already had academic difficulties. Parental involvement may not help academic scores; it does help prevent behavioural problems (Domina, 2005).

Dasinger (2013) portrayed parental support on a continuum that ranges from under support to over support with moderately support in between. Moderately support parents encourage the best interest of their children. Under support parents may not show any interest in the children’s participation and therefore lack the emotional support that an adolescent need to perform better. Children with under support parents are susceptible to dropping out of school due to their parents’ inattention. In other words, secondary school students with over involved parents perceive very high levels of parental attention and pressure. However, these students often deal with outcomes of pressure such as lowered self-esteem, guilt, distress, and even burnout (Dasinger, 2013). Similarly, Budzienski (2015) observed that children of parents who put pressure on them by “over-managing” their lives at school end up having higher levels of depression, decreased satisfaction with life and lower level of autonomy and competence. Akhtar and Aziz (2011) states that parental involvement in students’ academic performance in mathematics play a crucial role in the development of both social and cognitive competence in children; the researchers also observe that infants who lack parental involvement are associated with aggressive behaviours and low self-esteem.

Narasimhan (2012) stated that a parents’ influence over their children’s life is undeniable, particularly when parents are financially supporting their children’s education; they believe they can demand more. This demand is often made to the point that grade become more important than knowledge. Students become overscheduled, attempting to achieve not only their own but their parents’ expectations. Secondary school students alter their behaviours according to their parents’ expectations, which does not only affect their academic performance in mathematics but also continues even as they become young adults.

**PEER GROUP INFLUENCE AND PERFORMANCE IN MATHEMATICS**

Nigeria secondary school students have always been exposed to peer group influence, but the kinds of peer influence that they encounter have changed tremendously in the past years. Peers can influence everything from what secondary school students choose to wear to whether or not they engage in drug related or other delinquent behaviour. Thus, knowledge of the effects of peer group influence is important for all in the society. Peer group influence can be seen as a pressure exerted by peer group in encouraging secondary school students to change or achieve their values or desires (Spear and Kulbok, 2001). Peer group influence occurs when secondary school students provide knowledge, experience, and emotional, social or practical help to each other (Shery, Hilton and Curtis 2006). Generally, people cannot live alone in society. They need social belongingness, attachment and the feelings of affiliation for others. This need for affiliation may be based on genetics or experience. It constitutes a relatively stable trait or behaviour. Basically, secondary school students need social contacts that suit them. Sometimes they need parents’ help, love, care and guidance and some time they need friends’ intimacy, affection and love. Generally speaking, secondary school...
students find their friendships to be enjoyable: together they relax, joke, watch television, and participate in sports activities. They therefore tend to be influenced academically if their peers are types that serious with their studies. Parent attachment and support may be stronger during infancy and childhood, whereas friends’ attachment and support seems to be stronger during secondary school days. Unfortunately for parents within this period, secondary school students prefer to receive compliments and support more from peers than from parents.

In most cases, secondary school students tend to replace the modeling value of the family context during early childhood with that of their peers. The adolescent in search of social acknowledgement may come under a certain amount of pressure that drives them to abide by the peers’ convictions or rejections. Makuma (2010) maintained that peer groups have a stronger influence than that of parents because the secondary school students in search for acceptance joins a particular peer group and identify with the behaviours and attitudes of that group. They are often willing to conform to their peers’ behaviours in order to be accepted. As a result, peers are torn between accepting the support from their parents which is to concentrate on their studies and the pressure from peers to engage in other social activities like spending time chanting on social media, playing football, visiting friends, watching television and many others. It is observed that associating with friends that serve as academic and social resources could have a direct and positive influence on performance of Nigeria secondary school students in mathematics (Makuma, 2010).

Peer group influence is believed to have an impact on the performance of secondary school students in mathematics and a number of studies have been done to prove that belief. According to Johnson (2010) the peer group of secondary school students influences social and academic development and that these influences begin at the very start of formal education. Johnson (2010) stated again that influence and motivations for all kinds of secondary school students’ behaviour, including study habit and personal academic performance, come not only from their peers, but also from their parents, teachers and others with whom they come into close contact. However due to the share amount of time secondary school students spend each day with their peers, the peer support can be substantial. Johnson (2010) is of the opinion that children must foster positive peer group early in other to become well-adjusted students. Delp (2015), in his work on how peers influence the academic performance of secondary school students gave some few statistics on some of the researches carried out in this area. The researcher is of the opinion that stronger students do have an impact on their peers and actually help improve the overall academic performance of their peers. Also, in a comparison of students surveyed, 34% of African American students said that their peers make fun of student who are smart or do well in school. Another study carried out by “the center for research in education, diversity and excellence” CREDE suggest that peer group are highly influential during adolescence but peers are less influential as kids get older (Delp, 2015). Similarly, Ryan (2000) discovered that peer group was influential regarding changes in students’ intrinsic value for school as well as academic performance. The peer group was not however influential regarding changes in student’s utility value for school. It was found that associating with peers who have a positive effect toward school enhanced students’ own satisfaction with school, whereas associating with student who has a negative effect towards school decrees it (Ryan, 2000).

It is very uncommon to find adolescents who eventually establish a healthy balance of advice and support
from their parents and their peers to encounter many difficulties during the transition from childhood to adulthood. However, some secondary school students who are so attached to their peers may receive more support from their peers and these may lead to future problems. Warren (2014) observed that secondary school students who do not have a healthy relationship with their parents and whose parents are too lenient are more likely to depend on their peers rather than their parents for support. This detachment from parents makes them vulnerable to negative influences and places them at risk for problem behaviours like delinquency and substance abuse. Secondary school students who are so attached to peers rely on them for reinforcement and approval. In other words, they can defy authority by exhibiting negative behaviours, like ignoring schoolwork or experimenting with substances like alcohol and marijuana so long as this is approved by their peers. All these will lead to nothing but low performance in academic pursuit (Dubow, Edwards and Ippolito, 2000).

McCord, (2001) concludes that strong attachment to one's peers, in addition to an emphasis on peer acceptance versus parental authority, weakens protective factors for risky behaviour and poor academic performance, leading secondary school students to maintain these negative behaviours. While the famous American psychologist, Judith Rich Harris says, a child who is raised in a traditional, happy family with adequate attention and care is as likely to go astray as the one brought up in a broken home; given their company of friends and peers at school. Parents' influence on teenagers doesn't always last in the face of peer influence (Dasinger, 2013).

CONCLUSION

The paper has empirically reviewed performance of Nigeria secondary school students in mathematics and showed that their performance especially in West African Examination Council (WAEC) and the National Examinations Council (NECO) were low. The importance of emotional intelligence, parent involvement, peer group and relationship between emotional intelligence and performance in mathematics, parent involvement and performance in mathematics, peer group influence and performance in mathematics were also reviewed. This empirically review helps in the design and development of interventions that maximize parental involvement where it shows to have the most positive and powerful effect. It also enables parents evaluate the different types and level of parental involvement and their influence on academic performance of their children especially in mathematics. It guides students in secondary school on how to deal with negative peer influence and helps them to have an in-depth knowledge on maximum utilization of their emotional intelligence.

RECOMMENDATIONS

1. Government, school administrators and parents should create enabling environment that will enhance creativity and also help the teachers at the various levels of the institutions both public and privates, to know the appropriate methods to be used in order to encourage creative thinking among secondary school students.

2. Parents is the first teacher a child is usually exposes to immediately after birth, therefore parents should employ their parental roles to encourage the spirit of creativity in their children so as to enhance their academic performance.

3. Parents and Teachers are encouraged to do everything within their power to encourage a healthy parent-teacher’s
relationship. Parents are not only important reinforcers for their children but also models for them.

4. Parents, Teachers and other education practitioners and those in related professional training should have an understanding of the issues surrounding peer group influence and utilize it to enhance their academic performance.

5. Students in secondary schools should be exposed to how to deal with negative peer influence and helps them to have an in-depth knowledge on maximum utilization of their emotional intelligence.

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