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# EMOTIONAL INTELLIGENCE AS CORRELATE OF ACADEMIC ACHIEVEMENT OF STUDENTS IN MATHEMATICS IN PUBLIC SECONDARY SCHOOLS IN IMO STATE

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## Abstract

In this study, the researcher investigated emotional intelligence as correlate of academic achievement of students in Mathematics in public secondary schools in Imo State. The design adopted for the study is a correlational research design. The population of the study consisted of 2,146 SS2 students of 2019.2020 session in all the 240 public secondary schools in Imo state. A simple random sampling technique was used to select 500 students from the population. The instrument used for data collection was titled, "Emotional Intelligence as correlate of Academic Achievement of students in Public Secondary Schools Questionnaire (EICAASPSSQ)". The instrument consists of sections A and B. Section A is concerned with items on academic activities of students in Mathematics while section B contains items on students' academic achievement in Mathematics. The instrument was validated by three experts, two from the Department of Educational Management and Policy and one from the Department of Measurement and Evaluation, all from the Faculty of Education, NnamdiAzikiwe University, Awka. The reliability of EICAASPSSQ was established using pilot – testing and analysis using cronbach Alpha which yielded 0.86 and 0.84 for sections A and B respectively and overall correlation value of 0.85 which was considered high enough for the instrument to be reliable. Pearson Product Moment Correlation Coefficients were used to answer the research questions and test the hypotheses. Findings revealed that there is a significant relationship between emotional intelligence and students' activities in Mathematics and students' academic

achievement in Mathematics. It was recommended among other things that the analysis of students' academic achievement should be done taking the role of emotional intelligence into consideration.

**Keywords**: Emotion, intelligence, students, academic achievement.

## Introduction

The link between the mind and emotions appears to be unclear to some people. Many think that acceptable ideas can only be possible without emotions. However, serious emotions have been proved to have strong relationship with good thinking. Emotional intelligence can be defined as the ability to recognize and control one's emotional dynamics, show empathy and viability in order to track down staggering obstacles with resilience and viability.

Coleman (2008) defined it as the ability to monitor one's own and other people's emotions in order to differentiate between them, label them properly and use information derived from the different emotions to guide thinking and behaviour. Emotional intelligence could be traced to the concept of social intelligence which was first linked to Thomdike in 1920. It is explained as the ability to understand and manage people and to act wisely in human relations Ghaontax and Kumar, 2014, Hafiz, 2011 and Thomdike (1920). Emotional intelligence is a tool that could be used to control impulses, show empathy and deal with difficulties with resilience and flexibility (Ghaonta and Kamar, 2014).

Though a nascent concept, the connection between emotional intelligence and the workings of the mind cannot be under-estimated. Thoughts are produced by the mind and these thoughts function with and within human emotions. In other words, they have the ability to influence and be influenced by emotions. Emotions are more than feelings. They are the totality of one's being or disposition as derived from one's circumstances, mood, interactions and relationship with others.

Abu Rayyash,*et al*. (2006) stated that there is a common denominator between emotions and thoughts on one

hand, and between the mind and the heart on the other hand as they inter-face with one another to help man with good thoughts and sound judgement. An emotionally distressed person they added cannot regulate his emotions or coordinate his mentality even if he portends a high level of intelligence.

Research has shown that thoughts generated outside emotions do not always result in good decisions or correct judgements. In most cases, it is impossible to have good thinking without the collaboration of the emotion. Khawaldeh (2004) and Goleman (2009) are of the opinion that it is not even necessary to attempt putting aside emotions while trying to create a balance between good thinking and emotions. Oyakhilome (2016) stated that emotional intelligence is one of the basic human aspects that play a very effective role in monitoring the behavioural performance of an individual. Its fundamental focus according to him is to identify and monitor emotions as the person interact with others, attain to his duties and adapt to his environment or circumstance.

Edumarks (2014), working on Mayer and Saloveys' paper presented some models of emotional intelligence. These according to them are:

a. Emotional self-consciousness - that is, knowing one's feeling at a specific time and comprehending the influence of those moods on others around the person.
b. Self-Regulation - that is, controlling one's emotions and expecting their consequences to avoid acting on impulse.
c. Motivation - that is, using emotional forces to achieve goals through liking one's learning activities and facing challenges with resilience.
d. Showing empathy to the emotions of others and
e. Displaying social skills through relationship management, inspiring others and stimulating desired responses from them.

Oyakhilome (2016) writing on the above models emphasised on the synergy between the mind and emotions. He stated that thoughts are pictures of the mind that express their actions through

emotions and give vent to intelligence. Therefore he asserted that it is almost impossible for the mind to generate useful thoughts that convert to intelligence without the input of the emotions. Emotional intelligence, Edumark (2014) added is good thought acted out through emotions.

Kwawaldeh (2004) and Goleman (2009) also contend that emotional intelligence cannot be separated from academic achievement. This is because a student that is emotionally traumatic cannot concentrate on his academics. Such emotional disorientation which could emanate from parents' marital crisis, poverty of parents that has resulted in poor feeding, ill-health and even lack of money could affect the academic activities and academic achievement of such a student in Mathematics or even in other subjects.

Beyond this is the fact that the secondary school stage is the period of storm and stress in the life of every student. This is the period that their bodies shoot-out due to the growth of their hormones and tissues. At this stage, they feel or appear attractive to the opposite sex and their tendency to explore their feelings or emotions is high. So, they battle with their confidence, self-regulation, belongingness, social competence, collaboration and curiosity (Goleman, 1995). There is therefore a consistent struggle between their emotions and their academic activities. Their ability to manage this conflict between their emotions and the academic activities and academic achievement in Mathematics at this stage determines the extent of their academic achievement.

In addition to the above situation, their transition to the tertiary institutions marks the commencement of a very big challenge at the realm of their emotion. Lazzara (2000) states therefore that it is difficult measuring students' academic activities and academic achievement without putting their emotional challenges into consideration. The difficulty in such measurement is the faulty premise that most of their studies are centred on cognitive intelligence with little or no attention on non-cognitive aspects especially the effective domain.

**Statement of the Problem**

The purpose of this study is to investigate the relationship between emotional intelligence and academic achievement of students in Mathematics in public secondary schools in Imo State, Nigeria. Emotional intelligence is the ability to handle one's feelings and passion and that of others with empathy.

The mind is the centre of activities but it does not act or operate alone. Most of the issues that form the thoughts of the mind are raised at the level of emotion. This means that man has a two-fold nature, the inward man and outward man. The inward man is the mind or soul while the outward man is the emotion.

The emotion by definition consists of the physical body and five sense. The connection between this two is inseparable, so when a student has emotional disorder, his concentration academically is affected and his academic activities and achievement drops. Such emotional problem could arise from relationship crisis, parents' separation or divorce, non-payment of school fees or even sickness or death of parents or one of them.

Unfortunately, the assessment of academic performance has always been carried out without the consideration of the impact of the emotions on students' academic activities. In addition to this, there has been no sufficient empirical research on the relationship between emotional intelligence and academic activities and achievement of students in Mathematics in public secondary schools in Imo State. This accounts for why this paper is designed to investigate the link between emotional intelligence and academic activities and academic achievement of students in Mathematics in public secondary schools in Imo State, Nigeria.

**Research Questions**

This study was guided by the following research questions

1. What is the relationship between students' emotional intelligence and their academic activities in Mathematics in public secondary schools in Imo State?
2. What is the relationship between students' emotional intelligence

and their academic achievement in Mathematics in public secondary schools in Imo State?

## Hypotheses

The following hypotheses were adopted to aid the study

1. There is no significant relationship between students' emotional intelligence and their academic activities in Mathematics in public secondary schools in Imo State.
2. There is no significant relationship between students' emotional intelligence and their academic achievement in Mathematics in public secondary schools in Imo State.

## Method

The design adopted for the study was a correlational research design. The design was used to ascertain the relationship between emotional intelligence and the academic achievement of students in Mathematics in public secondary schools in Imo State, Nigeria. The population of the study consists of 2,146 SS2 students of 2019/2020 session in all the 240 public secondary schools in Imo state. A simple random sampling technique was used to select 500 students from the population. The instrument used for the study was titled Influence of Emotional Intelligence as correlate of Academic Achievement of Students of Public Secondary Schools Questionnaire (EICAASPSSQ)". The instrument consists of two sections, Sections A and B. Section A is concerned with items on academic activities of students in Mathematics while section B contains items on students' academic achievement in Mathematics.

The instrument was validated by three experts, two from the Department of Educational Management and Policy and one from the Department of Measurement and Evaluation, all from the Faculty of Education, NnamdiAzikiwe University, Awka. The reliability of EICAASPSSQ was established using pilot-testing and analysis using cronbach alpha which yielded 0.86 and 0.84 for sections A and B respectively, and overall correlation value of 0.85 which was considered high enough for the instrument to be reliable. For the purpose of data analysis, each of the instrument was scored. The four-point rating scale was used in scoring the responses of the respondents item by

item. Each item was weighted and calculated as: Strongly Agree (SA) = 4points, Agree (A) = 3points, Disagree (D) = 2points and Strongly Disagree (SD) = 1point. Data were collected by the researcher himself. Mean and standard deviation were used to answer the research questions and test the hypotheses. The coefficients of correlation were classified into the form of relationship they exhibit. In testing the null hypotheses, where P-value is equal to or greater than the level of significance (0.05), the null hypothesis is accepted, but if otherwise, it is rejected.

**Results**

**Analysis of Research Questions**

**Research Question 1**

What is the relationship between students' emotional intelligence and their academic activities in Mathematics in Public secondary schools?

**Table 1: Pearson Correlation Coefficient of Students' Emotional Intelligence and their academic activities**

| Variables | N | Mean | Std. Deviation | rxy | Relationship |
|---|---|---|---|---|---|
| Emotional Intelligence (X) | | 16.81 | 1.98 | | |
| | 489 | | | 0.83 | High positive relationship |
| Academic Activities (Y) | | 28.85 | 1.83 | | |

Table 1 indicates a correlation value of 0.83 showing a high positive relationship between the dependent and independent variables. This is to say that students' emotional intelligence was a strong factor in determining their academic activities in Mathematics.

**Research Question 2**

What is the relationship between students' emotional intelligence and their academic achievement in Mathematics in public secondary schools in Imo State.

**Table 2: Pearson Correlation Coefficient of Students' Emotional Intelligence and their academic Achievement**

| Variables | N | Mean | Std. Deviation | rxy | Relationship |
|---|---|---|---|---|---|
| Emotional Intelligence (X) | | 17.71 | 1.89 | | |
| | 489 | | | 0.79 | High positive relationship |
| Academic Achievement (Y) | | 28.76 | 1.69 | | |

Table 2 indicates a correlation value of 0.79 showing a high positive relationship between the dependent and independent variables. This is to say that students' emotional intelligence was a strong factor in determining their academic achievement in Mathematics.

**Testing of Hypotheses**

**Hypothesis 1**

There is no significant relationship between students' emotional intelligence and their academic activities Mathematics in public secondary schools in Imo State.

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**Table 3: Pearson Product Moment Correlation (Ppmc) Analysis of the Relationship between students' emotional intelligence (N = 489)**

| Variables | Mean | Std. Deviation | rxy | p-value | Decision |
|---|---|---|---|---|---|
| Emotional Intelligence (X) | 16.81 | 1.98 | | | |
| | | | 0.83 | .000 | Rejected |
| Academic Activities (Y) | 28.85 | 1.83 | | | |

*p<.05; df = 487; critical r = .098

Table 3 shows that at 0.05 level of significance and degree of freedom 487, the critical r-value is .098. The calculated r-value obtained in establishing the relationship between students' emotional intelligence and their academic activities in public secondary schools in Imo State is 0.83 (p <.05). The p-value of .000 is less than the 0.05 level of significance. With these results, the null hypothesis which stated that there is no significant relationship between students' emotional intelligence and their academic activities in Mathematics was rejected. It was alternately accepted that there is significant relationship between students' emotional intelligence and their academic activities in Mathematics.

**Hypothesis 2**

There is no significant relationship between students' emotional intelligence and their academic achievement in Mathematics in public secondary schools in Imo State.

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**Table 4: Pearson Product Moment Correlation (Ppmc) Analysis of the Relationship between students' emotional intelligence and their Academic Achievement (N = 489)**

| Variables | Mean | Std. Deviation | rxy | p-value | Decision |
|---|---|---|---|---|---|
| Emotional Intelligence (X) | 17.71 | 1.89 | | | |
| | | | 0.79 | .000 | Rejected |
| Academic Achievement (Y) | 28.76 | 1.69 | | | |

*p<.05; df = 487; critical r = .078

Table 4 shows that at 0.05 level of significance and degree of freedom 487, the critical r-value is .078. The calculated r-value obtained in establishing the relationship between students' emotional intelligence and their academic activities in public secondary schools in Imo State is 0.79. The p-value of .000 is less than the 0.05 level of significance. With these results, the null hypothesis which stated that there is no significant relationship between students' emotional intelligence and their academic achievement in Mathematics was rejected. It was alternately accepted that there is significant relationship between students' emotional intelligence and their academic achievement in Mathematics.

## Discussion

In discussing the findings of the study, it is important to state that academic activities and academic achievement are not the same. The difference according to Edumark (2014) is in outcome. Academic activities can be explained in terms of efforts made by a student while academic achievement is concerned with the outcome or result of the effort made.

The finding of this study shows that there is a positive and high relationship between emotional

intelligence and academic activities of students in Mathematics. This is to say that students' emotional intelligence had a significant impact on their activities in Mathematics. This finding is in agreement with Coleman (2008) who stated that the relationship between the mind and emotional intelligence is inseparable. It is therefore impossible for good thinking to emanate from the mind in the absence of emotions (Khaealdah, 2004 and Goleman, 2009).

Another finding of the study revealed that there is a high and positive relationship between emotional intelligence and students' academic achievement in Mathematics. This means that students' emotional intelligence has a high significant influence on their academic achievement in Mathematics. This finding is in line with the findings of Preete (2013) that academic achievement without emotional intelligence is not futuristic and in fact impossible.

In support of the above findings, Maraichelvi and Rajan (2013) submitted that emotional intelligence in its four domains of intrapersonal awareness, interpersonal awareness; intrapersonal management and interpersonal management have been separately and totally found to be significantly associated with academic achievement of students irrespective of their levels.

Also, Maizatul (2013), in his study revealed that emotional intelligence in its dimensions have been found to be significantly related with students' academic achievement. According to Fernandez (2012), emotional intelligence has emerged as a significant predictor of academic achievement. This presupposes that students cannot do well in Mathematics or in any other subjects in the absence of emotional intelligence. In fact, research has proved that over 40% of the change in the academic achievement of students is attributable to emotional intelligence (Al-Rofo, 2011).

## Conclusion

The findings of this study have revealed that there is a significant relationship between emotional intelligence and students' academic achievement in Mathematics. Based on these findings, the researcher concluded that students should be aware of their emotional

intelligence and regulate it to enhance their achievement on Mathematics and even in other subjects or courses of study.

## Recommendations

1. Students should have a good knowledge of their emotional intelligence.
2. Students should also take note of the emotional intelligence of people around them and regulate their relationship with them, with empathy.
3. The analysis of student's academic achievement in Mathematics should be done, putting emotional intelligence into consideration.
4. Guidance and counselling of students should pay particular attention to the role of emotional intelligence on the academic activities and achievement of students.

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