



# Impact of Teachers Emotional Intelligent Skill on Academic Achievement of Senior Secondary School Students in Science and Mathematics in Cross River State

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## ABSTRACT

Emotional intelligence plays vital role in teachers managing their own lives and effectively with the feelings of others. The major purpose of the study was to establish whether there is any relationship between teachers' exposure to emotional intelligence training and students' academic achievement in Science and Mathematics. Using Stratified Random Sampling 380 students and 235 teachers were selected from Ten (10) schools in the three Senatorial Districts of Cross River State. The schools were also randomly assigned two treatments conditions (Emotional Intelligence Trained Teachers and Control Group). The instruments used to obtain data were Exploring and Developing Teachers' Emotional Intelligence Skills Questionnaire (EDTEISQ) and Science Students Achievement Test (SSAT) in Chemistry, Physics and Mathematics. Null hypotheses was tested using PPMC statistics. The result gave the calculated value ( $r_{cal} = 0.850$ ) at 0.05 level of significance and 148 Degree of Freedom (D.F). Since 0.85 is greater than the tabulated critical value ( $r_{tab}$ ) of 0.164, it suggested a positive correlation between teachers' Emotional Intelligence and Students Academic Achievement in Science and Mathematics. hence, the result was statistically significant. We therefore conclude that the data provided a sufficient evidence to adjudged that teachers' emotional intelligence is significantly related to students' academic achievement in Science and Mathematics in the research area.

**Keywords:** Academic Achievement, Emotional Intelligence, Mathematics, students and Teachers'

## 1.1 Introduction

Science and Mathematics education has been seen as a potent instrument of change for any nation of the world. It is the main engine for the development of any individual or society. In fact, no nation can grow above the level of education the government can provide to its citizens. This is the major reason many nations of the world are striving to attain scientific and technological growth among their citizens. Therefore, the teaching of Science and Mathematics is becoming more demanding and more attention is given to student performance in the subject. Despite the introduction of Information and Communication Technology (ICT) to enhance teaching and learning in the educational sector, there are still some difficulties and problems that need to be addressed. The major problem is the teachers' competence, many research studies have shown that teachers' competence has great effect on student performance.

Ang (2005) states that factors that affect students' academic performance are deteriorating educational standards; students' lack of seriousness, poor teacher motivation, high teacher workloads among others. Most of the factors makes it difficult for teachers to perform their obligations and also balance with social pressures from the society and students. Teachers who are subjected to social pressures may likely experience emotional difficulties. If teachers are helped to improve on their emotional competencies, then some of the problems in teaching is half solved. Most educational researchers have been looking for ways to improve students performance rather than teachers performance, (Barton, 2004). This simply means that our education is only focused in looking at student achievement.

Linda Darling-Hammond (1997) point out that the classroom teacher is the most important factor that is influencing student's achievement besides learner's, parents, and home environment. To this end, there is need for government at all levels to check on teachers' professional development because teachers have greater influence on students' achievement. Hence, the emotional intelligent teacher, emotional literacy of teacher and emotional intelligent skills of teacher has to do with the following: (1) understanding of emotion of their students, management of their emotions, use of emotions to facilitate critical thinking among their learners and others.

Mayer and Salovey (1997), stated that emotional intelligence is the ability to perceive and recognize emotions, to assimilate emotions, to understand and manage emotions and that emotional intelligence can also be seen as the ability of managing the emotion of others. Segal (2008) sees emotional intelligence as an attribute that can help someone to motivate oneself, solve problems and achieve goals in life.

Yomi (2007) study the effectiveness of self-efficacy and emotional intelligence training programs as strategies for fostering secondary school students' academic achievement. Nwadinigwe and Azuka-Obieke (2012) study revealed that there is a strong correlation between emotional intelligence and students' academic achievement. Hence, managing the emotion of our students will perhaps go a long way in students' academic achievement. Today many researchers are holding the view that emotional intelligence skill should be part of the teachers' professional developmental skill to be inculcated in the upcoming teachers training. Some scholars are making an argument that, there is need to teach emotional intelligence in schools.

Salami (2010) study showed that students with low emotional intelligence tend to struggle to communicate their feelings with peers, and this can result in struggling to form friendships with classmates or even relationship with their teachers. The problem of poor performance of students in Science and Mathematics have been worrisome to parents, government and the society at large. It is against this backdrop that the study is seeks to investigate the impact of emotional intelligence of teachers' and the academic achievement of students in Science and Mathematics subjects.

## 1.2 Research Hypotheses

A null hypothesis was stated to guide the study.

H<sub>0</sub>: There is no significant relationship between teachers' emotional intelligence skills and students' academic achievement in Science and Mathematics.

## 2.1 Method

The study was an exploratory study that involved the investigation of emotional intelligence of teachers, its impact on students' academic achievement. The study was restricted to secondary school Science teachers and students in the three education zones in Cross River State. 235 teachers teaching Science and Mathematics in secondary schools and 380 Senior Secondary 1 and 2 Science students were involved in the study. These samples were drawn through Stratified Random Sampling from the three Education Zones. The schools were randomly assigned two treatment conditions (Emotional learning system and peer mentoring) and control group. Exploring and Developing Teachers' Emotional Intelligence Skills Questionnaire (EDTEISQ) and Science Students Achievement Test (SSAT) in Chemistry, Physics and Mathematics instruments were developed for the study and used for data collection. Both (EDTEISQ) and SSAT were validated by two Science Educators in Cross River State College of Education Akamkpa and subjected to reliability test using Cronbach's alpha coefficient method. The reliability coefficients of the two instruments were 0.76 and 0.86 respectively. Training activities was carried out over a period of 6 weeks on the treatment group to exposed Science teachers to Emotional Intelligence Skills. The control group did not receive any such treatment.

## 2.3 Procedures for data analysis

To examine the relationship between teachers' Emotional Intelligence and Students Academic Achievement in Science and Mathematics, the data collected for this study was analyzed using Pearson Product Moment Correlation (PPMC) formula for calculating correlation which is the measure of strength of the linear relationship between two variables (Dependent and Independent). The PPMC correlation coefficient  $r$  between two variables  $X$  and  $Y$  is defined as:

$$r = \frac{n \sum X_i Y_i - \sum X_i * \sum Y_i}{\sqrt{\{(n \sum Y_i^2 - (\sum Y_i)^2) * (n \sum X_i^2 - (\sum X_i)^2)\}}}$$

## 2.2 Presentation of Results

### Hypothesis H<sub>0</sub>

There is no significant relationship between teachers' Emotional Intelligence and Students Academic Achievement in Science and Mathematics.

A(x) is the experimental group while A(y) is the control group. The results of analysis is as shown in table I.

**Table 1:** Pearson Product Moment Correlation analysis of teachers'

emotional intelligence and students' academic achievement in science and Mathematics.

N = 150	( $\sum x$ , $\sum y$ )	( $\sum x^2$ , $\sum y^2$ )	$\sum xy$	D.F	$r_{cal}$	$\alpha$	$r_{tab}$
A(x)	2084	58021	57871	148	0.850	0.05	0.164
A(y)	1987	69794					

From the Table 1 above, the calculated value ( $r_{cal} = 0.850$ ) at 0.05 level of significance and 148 Degree of Freedom (D.F), since 0.850 is greater than the tabulated critical value ( $r_{tab}$ ) of 0.164. This suggested a positive correlation between teachers' Emotional Intelligence and Students Academic Achievement in Science and Mathematics. Hence, the result was statistically significant. We therefore conclude that the data has provided sufficient evidence to adjudge that teachers' emotional intelligence is significantly related to students' academic achievement in Science and Mathematics in the research area.

### 2.3 Discussion of Findings

The finding in hypothesis one showed that there is a significant relationship between teachers' emotional intelligence and students academic achievement in Science and Mathematics. This might be due to the fact that the emotional intelligence of the teachers' is a major asset in the quality of learning that students acquire in schools. A Science and Mathematics teachers emotional intelligence skills is his/her work attributes or qualities which enable him/her to inspire and develop the latent or abilities of his students which will automatically contribute greatly to the high academic achievement of the students in Science and Mathematics. Again teachers' emotional intelligence in terms of resourcefulness, effective teaching skills and good evaluation enhances students' achievement. This is in tandem with the findings of Nwadinigwe and Azuka-Obieke (2012), which opined that there is significant relationship between emotional intelligent skills and academic achievement of students. This is also in agreement with the findings of Salami (2010) that emotional support significantly affects the Mathematics anxiety and problem solving.

### 2.4 Conclusion

This study investigated the effect of emotional intelligence skills of teachers' on Science and Mathematics students' academic achievements in Senior Secondary Schools in Cross River State Nigeria. following the findings from the study, it is concluded that there exist a significant relationship between teachers' emotional intelligence and student academic achievement in Science and Mathematics. The paper concluded that, developing teachers' emotional intelligence skills has great impact on their students' academic achievement than those in the control group.

### 2.5 Recommendations

Based on the findings of this study, we recommend that teachers' emotional intelligence skills in addition to teachers' qualifications should be developed through training programme as in service so as to build the teachers' capacities.

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### Research Hypothesis one Analysis

$$\text{PPMC } r_{cal} = \frac{n \sum X_i Y_i - \sum X_i \cdot \sum Y_i}{\sqrt{\{(n \sum Y_i^2 - (\sum Y_i)^2) \cdot (n \sum X_i^2 - (\sum X_i)^2)\}}} = \frac{150 \cdot 57871 - 2084 \cdot 1987}{\sqrt{\{(150(69794 - (1987)^2) \cdot (150(58021) - (2084)^2)\}}}$$

$$\text{PPMC } r_{cal} = \frac{4539742}{5332154.548} = 0.85$$

$$r_{tab} \text{ at } 0.5 = 0.164$$

$$\text{Degree of Freedom (D.F)} = n - 2 = 150 - 2 = 148$$