

Emotional Intelligence and Academic Self-Concept as Predictors of Secondary School Students' Achievement in Mathematics Imo State

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Abstract

Students' achievement in Mathematics has been persistently poor. Literature shows that previous researchers concentrated on investigating teacher and school related factors that influence student academic achievement in Mathematics, giving little attention to the student-related factors such as emotional intelligence and academic self-concept. The study investigated the extent, emotional intelligence and academic self-concept predict senior Secondary School three (SS3) students' academic achievement in Mathematics in Imo State. The correlation survey design was adopted. The study was guided by four research questions and two null hypotheses tested at 0.05 alpha levels. The population of the study was 33, 074 SS3 students in 297 public senior secondary schools in the area. The sample consisted of 1654 SS3 students which was selected using multi-stage sampling procedure. Two adopted and validated instruments: Emotional Intelligence Questionnaire (EIQ) and Academic Self-Concept Questionnaire (SCQ), with reliability coefficients of 0.77 and 0.71 determined using Cronbach Alpha method respectively were used. Data collected were analyzed using mean, standard deviation, Pearson Product Moment Correlation and regression analysis. The findings from the study showed that emotional intelligence predicts secondary school students' achievement in Mathematics while academic self-concept does not predict it. Also, the combination of emotional intelligence and academic self-concept significantly predicts secondary school students' achievement in Mathematics. Based on the findings, it was recommended among others that Mathematics teachers and school guidance counsellors should help improve students' emotional intelligence in a positive direction.

Keywords: Emotional intelligence, academic self-concept, Senior Secondary School and Achievement in Mathematics.

Introduction

Human existence has been revolutionized by science and technology. Science and technology (products of science education) are consequential and powerful instruments for socio-economic development. Recognizing the importance of science education, the Federal Government of Nigeria, in the National Policy on Education (Federal Republic of Nigeria, FRN, 2013) included science education in the secondary school curriculum in order to support the production of adequate number of scientist to inspire national development. To achieve this lofty aim in Nigeria, Mathematics was made core and compulsory for all primary and secondary school students. This is because the foundation for the study of science and technology is laid through the study of mathematics. The function of mathematics in the development of science and technology as well as arts and humanities cannot be overemphasized. Mathematics enhances the thinking capabilities of individuals by making them to be more creative, reasonable, rational as well as imaginative (Nurudeen, 2007).

The importance of Mathematics notwithstanding, the achievement of students in Mathematics in

Nigeria is seemingly poor. The annual reports of West African Senior School Certificate Examination (WASSCE) conducted by West African Examination Council (WAEC) for May/June 2011 to 2018, showed that the percentage of students who passed at credit level and above (A1 –C6) was less than 40% (Imo State Ministry of Education, 2016). The achievement of students in Mathematics in Imo State is a reflection of the general poor performance of students in Mathematics in Nigeria. In reaction to the general poor performance of students in Mathematics, Imo State government introduced Centralized Secondary School Examination (CSSE) in 2006 to generally serve as a production ground for preparing students with a view of helping them perform well in public examinations like West African Senior School Certificate Examination (WASSCE), National Examination Council (NECO) among others. Specifically, CSSE is to organize qualifying examination into Senior Secondary school three (SSS 3) from Senior Secondary School two (SS 2); and to standardize the quality of students that will register for WASSCE (Imo State Ministry of Education, 2016).

Interestingly, students perform well in Mathematics in CSSE based on the analysis of the results which is invariably expected to reflect in their performance in the public examinations (Statistics of Performance in Mathematics at the CSSE in Imo State, 2014-2018). Unfortunately, poor achievement in Mathematics has been persistent as shown by the WASSCE result in Imo State from 2014 to 2018 despite the CSSE as preparatory approach (WAEC, 2014 – 2018). This has generated a lot of concern as to determine the factors responsible for this undesirable trend. The prevalence of poor achievement of students in WASSCE in Imo State in spite of the CSSE approach, the mathematics educators and stakeholders in education attributed the poor performance to teacher, student and environmental factors as responsible for the ugly trend. Therefore, to determine how these factors particularly, the student factors (emotional intelligence and academic self-concept) predict students' academic achievement in Mathematics prompted the present research.

Mayer, Roberts and Barsade (2008) defined emotional intelligence as that which concerns the ability to carry out accurate reasoning about emotions and the ability to use emotions and emotional knowledge to enhance thought. Similarly, Mahmood, Abdel-'Dayem and Mousa (2013) described emotional intelligence as one's capacity to motivate self, control impulse and delay gratification; adjust one's mood and removal of distress thinking; have empathy and hope. For the purposes of this study, emotional intelligence is the ability of senior secondary school students to identify, understand, manage their emotions with others and balance emotions with rational thought. Mestre and Barchard (2014) argues that individuals who have developed high level of emotional intelligence are able to recognize and regulate their own and others' emotions. Thus, Goleman (2008) found that emotional intelligence predicts academic achievement of students. Also, Preti (2013) conducted a study to determine the relationship between emotional intelligence and academic achievement of students, and reported that emotional intelligence and academic achievement are correlated. In the same vein, Oyesoji, Adeyinka and Adedeji (2013) reported that emotional intelligence is positively related to academic achievement of students. Unfortunately, Azuka (2012) reported that adequate attention has not been given to determine the influence of emotional intelligence on academic achievement in science and Mathematics in Nigeria. In corroboration, Chukwuka (2018), reported that non-cognitive variables such as emotional intelligence is often neglected when considering factors affecting academic achievement in secondary schools in Nigeria. What this

means is that emotional intelligence has not been well researched upon especially by Mathematics educators in Nigeria in order to find its influences on academic achievement of secondary school students. The present study would, therefore, add to this enquiry in order to find out if emotional intelligence predicts academic achievement of secondary school students in Mathematics.

Another student factor is academic self-concept. Academic self-concept is defined as the individuals' knowledge and perceptions about themselves in academic achievement situation (Catherine, 2013). Balarabe and Bakare (2013) defined academic self-concept as an evaluative self-perception that is through the student's experience and interpretation of the school environment. For the purposes of this study, academic self-concept is the relatively stable set of attitudes and feelings that reflect self-evaluation of one's ability to successfully solve problems in secondary school mathematics. Academic self-concept varies as students move through grades in which their academic self-concept tends to rise in the direction of their academic achievement (Liu & Wang, 2005). Awad (2007) also reported that academic self-concept has a strong relationship with academic achievement whereas Asma-Tuz, Manzoor and Muhammad (2010) reported a weak correlation between academic self-concept and academic achievement. Although some researchers agree that the academic self-concept correlate with academic achievement, some like Awad reported strong correlation while others like Asma-Tuz, Manzoor and Muhammad reported weak correlation. Relatively, few studies have been done to highlight whether academic self-concept predicts academic achievement in Mathematics and the direction of such prediction. However, no study investigated the joint prediction of the two variables on Mathematics achievement. On the strength of the forgoing, it is therefore imperative to determine whether emotional intelligence and academic self-concept predict students' achievement in Mathematics Imo State, Nigeria.

Purpose of the Study

The purpose of this study was to determine how emotional intelligence and academic self-concept predict senior secondary three(SS3) students' academic achievement in Mathematics CSSE. Specifically, the study determined:

1. The emotional intelligence scores of secondary school students in Imo State.
2. The academic self-concept scores of secondary school students in Imo State.
3. Whether emotional intelligence predicts secondary school students' academic achievement in Mathematics CSSE.
4. Whether academic self-concept predicts secondary school students' academic achievement in Mathematics CSSE.
5. Whether emotional intelligence and academic self-concept jointly predict secondary school students' academic achievement in Mathematics CSSE.

Research Questions

The following research questions guided the conduct of the study.

1. What is the mean emotional intelligence score of secondary school students in Imo State?
2. What is the mean academic self-concept score of secondary school students in Imo State?
3. what is the magnitude of prediction of secondary school students' academic achievement by their emotional intelligence?
4. what is the magnitude of prediction of secondary school students' academic achievement by their self-concept?

5. what is the magnitude of prediction of secondary school students' academic achievement by their emotional intelligence and self-concept?

Hypotheses

The following hypotheses were tested at 0.05 levels of significance.

1. Emotional intelligence does not significantly predict secondary school students' academic achievement in Mathematics CSSE.
2. Academic self-concept does not significantly predict secondary school students' academic achievement in Mathematics CSSE.
3. Emotional intelligence and academic self-concept jointly do not significantly predict secondary school students' academic achievement in Mathematics CSSE.

Methodology

The correlational survey design was adopted in this study. According to Nworgu (2015), correlational survey design seeks to establish the relationship that exists between two or more variables. Nworgu stated further that correlational survey design studies indicate the direction and magnitude of the relationship between the variables. The correlation research design was adopted for this study because the researcher collected and analyzed data in order to determine how mathematics anxiety, emotional intelligence and academic self-concept singly and jointly predicted secondary school students' achievement in mathematics. Population of the study comprised 33, 074 SS3 students in 297 public senior secondary schools in Imo State. The researchers sampled 1,654 SS3 students from the population using multi-stage sampling procedure. In the first stage, simple random sampling technique by balloting was used to select three education zones out of the six in the state. In the second stage, proportionate stratified sampling technique was used to select 48 secondary school schools from the 297 public secondary schools in the state, using the three zones as cluster/proportion. In stage three, purposive sampling technique was used to select 16 secondary schools from each of the three zones already selected based on some predetermined criteria, namely existence of SS3 class, co-educational secondary schools and availability of CSSE scores in Mathematics in the schools. The SS3 students from each of the selected secondary schools were used for the study. The instruments used for data collection were Emotional Intelligence Questionnaire (EIQ) and Academic Self-Concept Questionnaire (SCQ). EIQ was adapted from Mavroveli and Petrides (2000). It is made up of two sections A and B. Section A was used to obtain bio data of the respondents while Section B was drafted to elicit information on the emotional intelligence of senior secondary schools students. Section B also contains 36 items.

The original instrument used by Mavroveli and Petrides had five response options of disagree completely, disagree, neither agree nor disagree, agree and agree completely. However, for purposes of the current study, the response options were changed to never, rarely, sometimes, often, and very often. This was done to ensure that students will be familiar with the response pattern since they did not understand the neither agree nor disagree which were observed during pilot testing. But all the items of the instrument were all retained. The numerical weights of 5, 4, 3, 2, and 1 were also assigned to these options respectively. Academic Self-Concept Questionnaire (ASQ) was adapted from Ghaderi (2005). ASQ contains two sections A and B. Section A contains information that was used to obtain bio data of the respondents while Section B has 30 items and drafted to elicit information on students self-concept. The original instrument constructed and used by Ghaderi was a 4-point Likert scale with four scale response option of Strongly Agree (SA), Agree (A), Disagree (D), and Strongly Disagree (SD) and with the weights

of 4,3,2,1 assigned to these options respectively. Similarly, words which were difficult for SS3 students to understand during pilot testing were changed to the level they could understand. For instance, the word “disparage” was substituted with “criticize”; enthralling was substituted by “reasonably attractive”. For positively cued items, the responses were assigned values ranging from 4 to 1. For negatively cued items, the values were reversed. Experts in relevant fields validated the instruments. The reliability index of the instruments was established using Cronbach Alpha which yielded internal consistency reliability coefficients of 0.77 and 0.71 respectively. The choice of Cronbach Alpha reliability coefficient in the establishment of the reliability of the instrument was necessitated by the fact that the items contained in the instrument were polytomously scored. The SS3 students were instructed to write their names on the instruments which were given to them before filling them. This was basically to enable the researchers match EIQ and ASQ scores with the obtained SS3 students Mathematics CSSE scores. During the administration of the instruments, class teachers who served as research assistants administered and collected the instruments after students had completed them under strict supervision. Thereafter, the data obtained were collected for analysis.

Method of Data Analysis

The data collected from the survey study were analyzed using mean, standard deviation, Pearson Product Moment Correlation Coefficient and regression analysis. In particular, mean and standard deviation were used to answer research questions. The following real limits of numbers 2.50 and 3.00 were used as averages to interpret the means. To that effect 3.0 was used interpret the mean of research questions 1 whereas 22.50 was used to interpret the mean of research questions 2. The Pearson Product Moment Correlation Coefficient (R) and coefficient of determination (R^2) were used to answer research questions 3 and 4. But multiple linear regression analysis was used to answer research 5. For hypotheses, simple linear regression analysis (ANOVA) was employed in testing hypotheses 1 and 2 while multiple linear regression analysis was used to test hypothesis 3. In taking decision, if the p-value is less than or equal to the significant value of 0.05 ($P \leq 0.05$), the null hypothesis is rejected; but if otherwise ($P > 0.05$) it is not rejected.

Results

Research question 1: What is the mean emotional intelligence score of secondary school students in Imo State?

Table 1: Mean and standard deviation ratings of the emotional intelligence of CSSE mathematics students

S/n	Items	\bar{x}	SD
1	I try to be in a good mood	3.50	1.09
2.	I like meeting new people	3.37	1.04
3	I find it hard to get used to a new school year.	3.42	1.26
4	I feel great about myself.	3.42	1.35
5	When I feel sad, I try to do something to change my mood.	3.31	1.27
6	I do feel sad.	3.44	1.25
7	If I'm happy with someone, I will tell him or her.	3.21	1.16
8	I do get along with everyone.	2.82	1.23
9	I feel angry.	3.57	1.08
10	The kids at school like playing with me.	3.33	1.09
11	When I'm in a new place, I get used to it quickly.	3.08	1.32

12	I'm not happy with myself.	4.01	1.27
13	I don't think before I do something.	3.94	1.24
14	I'm very good at understanding how other people feel.	3.42	1.19
15	I don't like, working hard for something.	3.77	1.31
16	It's easy for me to understand how I feel.	3.39	1.22
17	If I have to do something, I know I can do it very well.	3.51	1.25
18	I get angry very easily.	3.64	1.22
19	I try to do my homework as well as I really can.	3.62	1.26
20	I talk about my feelings.	3.10	1.12
21	I don't like waiting to get what I want.	3.64	1.36
22	I'm a very happy kid.	3.74	1.35
23	I don't like studying hard.	4.05	1.32
24	It may not be well with me when I grow up.	4.11	1.35
25	Most people like me.	3.55	1.25
26	I think very carefully before I do something.	3.73	1.21
27	I'm not good at controlling the way I feel.	3.57	1.16
28	I get used to strangers very quickly.	2.57	1.30
29	I can't find the right words to tell others how I feel.	3.30	1.19
30	I don't like trying out new things.	3.55	1.25
31	I like being with other people.	3.44	1.16
32	I know how to show other how much I care about them.	3.36	1.26
33	I'm confused about the way I feel.	3.55	1.21
34	When I fail something I don't like trying again.	3.98	1.28
35	If I don't do something well, I don't like trying again.	3.72	1.36
36	I think very carefully before I talk.	3.73	1.29
	Total	3.51	1.47

Table 1 indicates that all the 36 items have mean scores ranging between 2.57-4.11 with the standard deviation which ranges from 1.04 -1.47. Table 1 shows the total mean of 3.51. Based on the mean benchmark of 3.0 and above except item 8 that has mean rating of 2.82. This indicates high level of emotional intelligence of the students.

Research question 2: What is the mean academic self-concept score of secondary school students in Imo State?

Table 2: Mean and standard deviation ratings of the academic self-concept of CSSE mathematics students

Sn	Item	\bar{x}	SD
1	There are lots of things I would change about myself if I could	2.95	0.91
2	I often feel humiliated.	3.06	1.14
3	I can usually make up my mind and stick to it.	2.80	1.01
4	Everyone else seems much more confident and contented than me	3.04	1.11
5	I often worry about what other people are thinking about me.	2.91	0.96
6	I feel emotionally mature.	3.15	1.16
7	When people criticize me I often feel helpless and second-rate.	2.99	1.06
8	I can like myself even when others don't.	3.17	1.20
9	I'm easy to like.	3.07	1.16
10	Most people find me reasonably attractive	2.39	1.02

11	I have a pleasant personality.	3.12	1.21
12	I look awful these days	2.28	0.91
13	Those who know me well are fond of me	3.10	1.14
14	Most people would take advantage of me if they could	2.88	1.00
15	It would be boring if I talked about myself	2.70	0.95
16	When I am successful, there's usually a lot of luck involved	2.95	1.02
17	There's a lot of truth in saying "what will be, will be"	3.23	1.13
18	I have control over my own life	2.96	1.42
19	I never feel down in the dumps for very long	2.78	0.90
20	I can never seem to achieve anything worthwhile	3.14	1.23
21	I don't care what happens to me	2.90	1.03
22	I seem to be very unlucky	3.17	1.15
23	I'm glad I am who I am	2.50	0.95
24	Even when I quite enjoy myself there doesn't seem much purpose to it all	3.20	1.22
25	If I really try, I can overcome most of my problems	2.82	0.99
26	It's pretty tough to be me	2.96	1.01
27	When progress is difficult, I often find myself thinking it's not worth the effort. .	3.10	1.14
28	I am a reliable person	3.13	1.24
29	If a task is difficult that just makes me all the more determined	2.99	1.09
30	I have doubts that I will do well in my major	3.27	1.31
	Total	3.00	1.10

In Table 2, the result shows that the students have mean scores between that range from 2.28 to 3.27 with standard deviation that range from 0.90 -1.42. In same vein, Table 2 shows a total mean of 3.00 which indicates that the students have average academic self-concept.

Research question 3: what is the magnitude of prediction of secondary school students' academic achievement by their emotional intelligence?

Table 3: Model Summary of ratings of the emotional intelligence of CSSE mathematics students

Variable	\bar{X}	SD	R	R ²	Adjusted R ²	B	Beta
Emotional Intelligence	108.3	9.78					
Achievement in Mathematics CSSE	68.86	11.77	0.70	0.40	0.37	58.36	.089

In Table 3, the correlation coefficient R is 0.70 with an associated coefficient of determination R² 0.40. The results indicate that emotional intelligence accounted for 40% of the variation in academic achievement in Mathematics CSSE. In other words, emotional intelligence accounted for 40% of the variance of academic achievement in Mathematics CSSE of students. The regression equation for Mathematics anxiety derived from Table 3 is as follows; CSSE() = 58.36 + 0.089EMOITELIGENCE.

Research question 4: What is the magnitude of prediction of secondary school students' academic achievement by their self-concept?

Table 4
Model Summary of ratings of the academic self-concept of CSSE mathematics students

Variable	\bar{X}	SD	R	R ²	Adjusted R ²	B	Beta
Academic Self-Concept	82.56	4.14					
Achievement in Mathematics CSSE	68.86	11.77	.026	.001	.000	74.91	-.026

In Table 4, the correlation coefficient R and an associated coefficient of determination R² are 0.026 and 0.001 respectively. The coefficient of determination of 0.001 shown in Table 4 means that 0.1% of students' achievement in Mathematics CSSE is accounted for by academic self-concept. The regression equation for academic self-concept derived from Table 4 is as follows; $CSSE() = 74.91 - 0.026ACADESELFCONCEPT$.

Research question 5: What is the magnitude of prediction of secondary school students' academic achievement by their emotional intelligence and self-concept?

Table 5
Model summary of joined emotional intelligence and academic self-concept as predictors of mathematics CSSE Scores

Variable	\bar{X}	SD	R	R ²	Adjusted R ²	B	Beta
Emotional Intelligence	108.3	9.78					.087
Academic Self-Concept	82.56	4.14					-.020
Achievement in Mathematics CSSE	68.86	11.77	0.65	0.54	0.51	70.33	

The results in Table 5 show that the correlation coefficient R and coefficient of determination (R²) are 0.65 and 0.54 respectively. The coefficient of determination of 0.54 shown in Table 5 means that 54 % of students' academic achievement in Mathematics CSSE is accounted for by combined mathematics anxiety, emotional intelligence and academic self-concept. The regression equation for joint prediction of emotional intelligence and academic self-concept derived from Table 5 is as follows; $CSSE() = 70.33 - 0.087EMOITELIGENCE - 0.020ACADESELFCONCEPT$.

Hypothesis 1: Emotional intelligence does not significantly predict secondary school students' academic achievement in Mathematics CSSE.

Table 6: Summary of ANOVA Table for Regression Analysis of emotional intelligence as predictors of Mathematics CSSE Scores

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	1797.071	1	1797.071	13.058	.000

Residual	227357.321	1652	137.625
Total	229154.392	1653	

In order to test hypothesis 2, regression analysis was used. The result is presented in Table 6 and shows that $F_{(1,1652)} = 13.058$, $P = 0.005$. This probability value of 0.0005 was compared with 0.05 and it was found to be significant because 0.005 was less than 0.05. The null hypothesis was therefore rejected and inference drawn was that, emotional intelligence predicts secondary school students' academic achievement in Mathematics CSSE scores

Hypothesis 2: Academic self-concept does not significantly predict secondary school students' academic achievement in Mathematics CSSE.

Table 7: Summary of ANOVA Table for Regression Analysis of academic self-concept as predictors of Mathematics CSSE Scores

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	152.037	1	152.037	1.097	.295
Residual	229002.355	1652	138.621		
Total	229154.392	1653			

Table 7 shows that the obtained F-value was $F(1, 1652) = 1.097$, with an associated probability value of 0.295. Since the obtained probability value (0.295) associated with the computed F-value (1.097) was greater than the 0.05 level of significance, the null hypothesis was not rejected. It implies that academic self-concept does not predict secondary school students' academic achievement in Mathematics CSSE scores.

Hypothesis 3: Emotional intelligence and academic self-concept jointly do not significantly predict secondary school students' academic achievement in Mathematics CSSE.

Table 8: Summary of ANOVA Table for Regression Analysis of joint contribution of emotional intelligence and academic self-concept to predict students Mathematics CSSE Scores

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	2457.455	3	819.152	5.962	.000
Residual	226696.938	1650	137.392		
Total	229154.392	1653			

In order to test hypothesis 3, multiple regression analysis was used. The result in Table 8 shows that the obtained F-value was $F_{(3, 1652)} = 5.962$, with an associated probability value of 0.0005. This probability value of 0.0005 was compared with 0.05 and it was found to be significant. The null hypothesis was therefore rejected and inference drawn was that, combined emotional intelligence and academic self-concept predict secondary school students' academic achievement in Mathematics CSSE.

Discussion

The finding of this study showed that emotional intelligence is a significant predictor of secondary school students' academic achievement in Mathematics CSSE. The finding of this study is much similar with the findings of Maliha (2011), Maryam (2011) and Fayombo (2012) studies which reported that emotional intelligence predicts students' achievement in Mathematics. Similarly, this finding agrees with the findings of Ukeni (2014), Manish and MdNehajul (2017) and Amalu (2018) who reported in their respective studies that emotional intelligence predicted students' academic achievement. From the findings of this study, *Emotional Intelligence and Academic Self-Concept as*

emotional intelligence helps in combating persistent poor achievement of students in Mathematics at secondary school level. Perhaps, the reason is that the emotional intelligence helps students cope with emotions in the academic environment, maintain their relationships with teachers, students, and family. That is, they can call on friends and teachers to help them when they struggle with academic work or call on others for emotional support.

Finding in this study indicated that academic self-concept is not a predictor of secondary school students' academic achievement in Mathematics CSSE. The reason could be that the students notwithstanding their academic self-concept, still study Mathematics regularly and work hard in the classroom. This finding is in consonant with the finding of Adeboye (2014) who reported that academic self-concept did not significantly predict academic performance of students in mathematics. However, this finding is not consistent with the findings of Ayodele (2011), Dramanu and Balarabe (2013) and Sandeep and Rashmi (2017) who reported in their respective studies that academic self-concept significantly predicted academic achievement of secondary school students. In spite of this contrasting finding, the present finding offers further support to the finding that academic self-concept does not significantly predict academic achievement of students in mathematics. Perhaps, the difference in the findings of the studies is due to the fact that they differ in their respective concerns. That is, secondary school students in the present study, are more influenced by other psychological factors such as emotional intelligence, than academic self-concept.

The finding in this study has also revealed that the joint prediction of emotional intelligence and academic self-concept on students' achievement in Mathematics CSSE is significant. Emotional intelligence involves the ability of students to understand and manage their emotions and the emotions of others in an academic environment whereas academic self-concept is the value judgement of self by the students through the interaction with the academic environment. It is, therefore, possible that the two concepts joined together creates better opportunity to predict students' academic achievement. Again, the former is innate while the latter is not but can be developed. So, in the process of managing emotions, academic self concept could be moderately developed. This finding is in consonance with the findings of Amalu (2018) who reported that the combined self-awareness and emotional intelligence predicted academic performance of secondary school students in Mathematics.

Conclusion

Based on the findings presented and discussed, the study concludes that emotional intelligence significantly predicts the students' achievement in Mathematics CSSE while academic self-concept does not predict the students' achievement in Mathematics CSSE. However, both jointly predict students Mathematics CSSE scores

Recommendations

From the findings of this study, it was recommended that Mathematics teachers and school guidance counsellors should help improve students' emotional intelligence in a positive direction.

Limitations of the Findings

Some respondents may have faked their rating of themselves. This faking in rating some of the items of the instruments may have affected their responses.

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