

Secondary school students' self-esteem and achievement goal orientation as correlate of academic achievement in mathematics in Anambra State.

¹Anyanwu Adeline Nne, ²Emesi Kingsley Ekene

^{1, 2} Department of Educational Foundations Faculty of Education Nnamdi Azikiwe University Awka, Anambra State

ABSTRACT: Research has revealed that students' self-esteem and achievement goal orientation are strong personality constructs that determine students' effective and self-directed learning. Their relationship in determining academic achievement has been an unresolved issue in the educational system. The study therefore examined the relationship among students' self-esteem, achievement goal orientation and academic achievement in mathematics in Anambra State. Five research questions and five hypotheses guided the study. A correlational research design was adopted to provide answers to the research questions and hypotheses. The population of the study comprised 17,982 SS2 students of public secondary schools in the state from which a sample of 600 was drawn. Multi-stage procedure was used to select the sample. Two standardized research instruments namely; Achievement Goal Orientation Questionnaire (AGOQ), Self-Esteem Questionnaire (SEQ), as well as scores from students' promotion examination were used for data collection. Cronbach's alpha was used to determine the reliability of the items in the instruments. Reliability indices of 0.73, 0.71, 0.82, 0.76, 0.72, 0.84 and 0.74 were obtained for mastery-approach, mastery-avoidance, performance-approach, performance-avoidance, work-avoidance, high self-esteem and low self-esteem respectively. The Pearson product moment correlation was used to answer research questions 1 to 4 and test hypotheses 1 to 4 while the research question five and hypothesis five were answered and tested with multiple regression. The findings showed that students' self-esteem recorded a very low negative relationship with academic achievement in mathematics. Achievement goal orientation also recorded a very low positive relationship with students' achievements in mathematics. Student's self-esteem and achievement goal orientation significantly predicted their achievement in mathematics. Based on the findings, it was recommended that, teachers should apply enhancing strategies to improve students' self-esteem and their achievement goal orientation for these personality constructs will lead to better achievement in some courses if properly utilized.

KEYWORDS: Self-esteem, Achievement goal orientation and Academic achievement

I. INTRODUCTION

Education is of tremendous importance, more than ever before in history. To succeed in education, students not only need to dispose of their necessary cognitive skills and self beliefs system, they also need to have the will or motivation to learn (Tian, Yu & Scott 2017). Students engaged in learning context and achieved academically when they are sufficiently motivated and have a positive view of their personality constructs. Teaching and learning through the four walls of the school galvanises the child and makes him/her to actualize the potentials that will enable him to cope more adaptively with daily stressors, challenges and setbacks in school. This is because underachievement and disengagement have serious consequences, both at individual and societal levels (Bempechat & Shernoff, 2013). Education that is the key for individual, societal and national development has suffered a serious setback in Nigeria. This has been observed from the students' academic achievement that recorded poor outcome through various examinations that have been taken by the students. It is acceptable to say that examinations have always been used as the main basis for assessing student's ability and also a means of selection for educational advancement and employment (Ada, Nwokolo & Ezeani, 2016). Suffice it to say that academic achievement is one of the most important indicators of learning and understanding in all educational system. Academic achievement refers to the acquisition of all the behavioural changes associated with cognitive, affective and psychomotor domains (Bhagat, 2016). Interestingly, academic achievement of students is influenced by so many factors such as student related, teacher related and school related (Vishalakshi & Yeshodhara, 2012). In his observation, Bhagat (2016), notified that academic achievement is multi-dimensional as it is intricately related to human growth and cognitive, emotional, social and physical development; it reflects to the whole child; it is not related to single instance but occurs across time and levels, through a students' life in school and on into post secondary school years and working life. Operationally, academic achievement encompasses students' ability and performance made by the students in their academic

context for a particular period. It was observed that students' performance in mathematics in the Senior Secondary Certificate Examination in Anambra state is not encouraging. The poor performance has raised concern and efforts have been made to find the reasons behind it. This students' poor performance in mathematics has been attributed to many factors such as students' negative attitude to mathematics, lack of mathematics teachers, and mathematics anxiety. Despite improvement on these identified factors, the problem still persists. One begins to think of some other variables that could predict students' academic achievement. Such psychological variables are considered to be self-esteem and achievement goal orientation. These personality constructs have both intrinsic and extrinsic influences as underlying forces that shape these variables to determine students' academic achievement. Within the realm of educational psychology, achievement goal orientation and self-esteem represent the two salient indicators that conceptualise students' motivation and perception as these could determine their achievement in any academic context. Understanding the construct of self-esteem unveils it as the evaluative aspect of the self-concept that corresponds to an overall view of the self as worthy or unworthy (Waskiewicz 2012). Thus, self-esteem is an attitude about the self and is related to personal beliefs about skills, abilities, social relationships and future outcomes (Miraei, 2006). Self-esteem is the emotional response that people experience as they contemplate and evaluate different things about themselves. In an attempt to support this, Bahrami and Bahrami (2015), described self-esteem as the degree to which a person values him/herself, the summation based on the emotions, beliefs, feelings and precise self-evaluation or in short it refers to overall emotional placement for self.

In the other words, self-esteem is thought of as the image or feeling which a person constructs in his/her mind about self over the time (Rahmani, 2011). Self-esteem is produced over time and can be either positive (high self-esteem) which results to positive outcomes or negative (low self-esteem) which results to negative outcomes. High Self-esteem means that a person has a conviction to do what is right in life (Kernis, 2006). Low self-esteem defines a belief that represents an individual's negative emotion towards the self which embraces negative appraisal by lowering his/her self-view. The effects of self-esteem in students' lives is so crucial that those with high self-esteem are more likely to persist in the face of difficulties and are better equipped to cope with challenges that arise in their personal lives unlike those with low self-esteem (Ada, Nwokolo & Ezeani, 2016). However, the nature of self-esteem one has developed may relate positively with one's achievement goal orientation. Also, the type of self-esteem one has would predict one's achievement goal orientation. For students to learn and perform effectively, they must be sufficiently motivated by endorsing achievement goal orientation as a motivational construct that could interplay with their self-esteem for potential academic output. Achievement goal orientation as a motivational construct is required for students to develop into independent educationists, such learners would help to enable fulfilment of statutory continuing professional development requirements (Maurice, Lezley, Alan, & Karen, 2015).

Achievement goal orientation is defined as a comprehensive semantic system of situations or contexts which have cognitive, emotional and behavioural outcomes and learners used them to interpret their performances (Baumeister, 2002). Achievement goal orientation represents the purpose or cognitive-dynamic focus of competence relevant behaviour and the tradition of the achievement goal orientation emphasised mostly on mastery and performance goals (Dweck & Legget, 1988; Lennia, Willy & Marten, 2007). It is on this distinction that Elliot and McGregor (2001) bifurcated achievement goal orientation into four clusters; such as mastery-approach, mastery-avoidance, performance-approach and performance-avoidance goal orientation. According to them, mastery-approach goal orientation focused on the development of competence through task mastery. Mastery-avoidance goal orientation deals with trying to avoid being incompetence relative to the task or personal standards. Performance-approach goal orientation deals with trying to attain competence relative to one's peers, while the performance-avoidance goal orientation deals with trying to avoid being incompetent relative to one's peers. In addition to these four clusters of achievement goal orientation, Elliot and Harachkiewicz (1996) identified a fifth achievement goal orientation as work-avoidance goal orientation which describes a student that tries to do as little as is necessary to get his/her set goal. Students that endorse this goal orientation seek to complete their work with a minimum effort. Mastery-avoidance and performance-avoidance differ from work-avoidance orientation, also referred to as academic alienation in which failure is avoided without hard work and achievement is viewed as possible (Dweck, 2006). The question, is 'would students' self-esteem and achievement goal orientation jointly predict their academic achievement in mathematics?' To this end, examining the rate at which students' self-esteem has influenced their five components of achievement goal orientation to determine their academic achievement in mathematics is highly needed.

II. STATEMENT OF THE PROBLEM

Despite the increase in effort by both the Nigerian government towards improving the quality of learning in the country's secondary school education, poor academic achievement persists. The incessant poor performance of students in both the West African Secondary School Certificate Examination (WASSCE) and National Examination Councils examination (NECO) in mathematics is no longer news in Nigerian. It has become a source of great concern to educators, parents, guardians, curriculum planners and researchers. Many reasons have been given for this dismay performance of students in mathematics such as, students' negative attitude towards mathematics, poor teaching method by the teachers and poor academic self-concept towards mathematics. Despite improvement on these identified variables, the problem still persists. One begins to think of some other variables that could predict students' academic achievement in mathematics. Such psychological variables are self-esteem and achievement goal orientation. The problem is: 'Could the self-esteem and achievement goal orientation jointly predict mathematics achievement of secondary school students'. Against this backdrop, the researcher examined the relationship that exists among students' self-esteem, achievement goal orientation and academic achievement in mathematics in Anambra state.

Research Questions

1. What is the relationship between students' self-esteem and their academic achievement in mathematics?
2. What is the relationship between students' achievement goal orientation and their academic achievement in mathematics?
3. What is relationship between students' high self-esteem and their achievement goal orientation?
4. What is relationship between students' low self-esteem and their achievement goal orientation?
5. What is the proportion of variance in academic achievement in mathematics that is explained by students' self-esteem and their achievement goal orientation?

Hypotheses

1. There is no significant relationship between students' self-esteem and their academic achievement in mathematics.
2. There is no significant relationship between students' achievement goal orientation and their academic achievement in mathematics.
3. There is no significant relationship between students' high self-esteem and their achievement goal orientation.
4. There is no significant relationship between students' low self-esteem and their achievement goal orientation.
5. The proportion of variance in academic achievement in mathematics that is explained by students' self-esteem and their achievement goal orientation is not significant.

III. METHOD

The researchers used a correlational research design and used questionnaires to collect data for the study. The population of this study comprised 17,982 being the total number of students in senior secondary class II (SSII) in Anambra state. A sample size of 660 was drawn from the senior secondary schools in the six education zones of Anambra state. Out of the 660 questionnaire administered to respondents, 600 of them were found useful during data analysis. Multi-stage procedure was used to select the respondents. The procedure for the selection were as follows: In stage one, three education zones were selected from the six education zones in the state by simple random sampling. Then in stage two, from each sampled education zone, one local government area (L.G.A) was selected through simple random sampling giving a total of three (3) L.G.AS. In stage three, from each sampled L.G.A, 10 schools were randomly selected giving a total of 30 schools. Then, from each of the schools, 22 SSII students were selected for the study from the schools using a table of simple random sampling. This gave a total number of 660 students used in the study. The study adapted two standardized research questionnaires namely; Elliot, and Church, (2001) Achievement Goal Questionnaire (AGOQ) and Eysenck Self-esteem Questionnaire (Eysenck, 1976). The students' achievement scores in mathematics from the state wide senior secondary One (SS1) promotion examination were obtained from the schools before the administration of the instruments. The method used in validating the instruments were face and content validity by three experts from the Faculty of Education, Nnamdi Azikiwe University Awka. Cronbach's alpha reliability method was used to determine the internal consistency of the items in different clusters such as; 0.73, 0.71, 0.82, 0.76, 0.72, 0.84 and 0.74 for mastery-approach, mastery-avoidance, performance-approach, performance-avoidance work-avoidance, high self-esteem and low self-esteem respectively. The Pearson product moment correlation was used in answering research question one to four and testing hypotheses one to four. Multiple regression was used to answer research question five and to test hypothesis five at 0.05 level of significance.

The decision rule for the null hypothesis with P-value higher than 0.05 was not rejected while the hypothesis with P-value lower than 0.05 was rejected. The guide for interpretation of correlational results was done in accordance with Okoye (2015), rough guide for interpreting correlation coefficient values when a large number of pairs of scores have been correlated. The decision rule to interpret the research questions were presented as follows: $r = .00$, no relationship; $r = \pm 0.0$ to ± 0.2 very low relationship; $r = \pm 0.2$ to ± 0.4 , low relationship; $r = \pm 0.4$ to ± 0.6 , medium relationship; $r = \pm 0.6$ to ± 0.8 high relationship and $r = \pm 0.8$ to 1.0, very high relationship.

IV. RESULTS

Research Question 1: What is the relationship between students' self-esteem and their academic achievement in mathematics?

Table 1: Relationship between Students' Self-esteem and their Academic Achievement in mathematics.

(N=600)

Variable	mathematic (r)	Remark
High self-esteem	-.016	A very low negative relationship
Low self-esteem	-.087	A very low negative relationship

The result in table 1 revealed a very low negative relationship between students' high self-esteem and low self-esteem with their academic achievement in mathematics.

Research Question 2: What is the relationship between students' achievement goal orientation and their academic achievement in mathematics?

Table 2: Relationship between Students' Achievement Goal Orientation and their Academic Achievement in Mathematics.

(N=600)

Variable	Mathematics score (r)	Remark
Mastery approach	.076	A low positive relationship
Mastery avoidance	.082	A low positive relationship
Performance approach	.041	A low positive relationship
Performance avoidance	.007	A very low positive relationship
Work avoidance	-.088	A very low negative relationship

The result in table 2 revealed that relationship between students' mastery-approach, mastery-avoidance and performance-approach recorded a low positive relationship with their academic achievement in mathematics, relationship between students' performance-avoidance and their academic achievement in mathematics recorded a very low positive relationship and a very low negative relationship was recorded between students' work-avoidance and their academic achievement in mathematics.

Research Question 3: What is the relationship between students' high self-esteem and their achievement goal orientation?

Table 3: Relationship between Students' High Self-esteem and their Achievement Goal Orientation.

(N=600)

Variable	high self-esteem	Remark
Mastery approach	.395	A low positive relationship
Mastery avoidance	.332	A low positive relationship
Performance approach	.379	A low positive relationship
Performance avoidance	.262	A very low positive relationship
Work avoidance	.136	A very low positive relationship

The result in table 3 revealed a low positive relationship between students' mastery-approach, mastery-avoidance and performance-approach and their high self-esteem, while the relationship between students' performance-avoidance and work-avoidance recorded a very low positive with their high self-esteem.

Research Question 4: What is the relationship between students' low self-esteem and their achievement goal orientation?

Table 4: Relationship between Students' Low Self-esteem and their Achievement Goal Orientation.

(N=600)

Variable	low self-esteem	Remark
Mastery approach	.214	A very low positive relationship
Mastery avoidance	.232	A very low positive relationship
Performance approach	.291	A very low positive relationship
Performance avoidance	.395	A very low positive relationship
Work avoidance	.420	A low positive relationship

The result in table 4 revealed the relationship between students' mastery-approach, mastery-avoidance, performance-approach and performance-avoidance recorded a very low positive relationship with their low self-esteem, while students' work-avoidance recorded a low positive relationship with their low self-esteem.

Table 5: Proportion of variance in academic achievement in mathematics that is explained by students' achievement goal orientation and self-esteem

(N = 605) (N = 600)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.186 ^a	.035	.023	11.91328

Table 5 revealed that the proportion of variance in academic achievement in mathematics that is explained by students' achievement goal orientation and self-esteem is 35 %.

Hypothesis 1. There is no significant relationship between students' self-esteem and their academic achievement in mathematics.

Table 6: The test for Significant Relationship between students' Self-esteem and their Academic Achievement in Mathematics.

Variable	Pearson (r) with students achievement	p-value	remark
High self-esteem	-.016	.691	S
Low self-esteem	-.087	.034	S

S- Significant correlation at 0.05 level of significant

The result in table 6 revealed that the relationship between students' high self-esteem and their academic achievement in mathematics is significant ($r = -.016 < 0.05$) and the relationship between students' low self-esteem and their academic achievement in mathematics is significant ($r = -.087 < 0.05$). The null hypothesis was accepted.

Hypothesis 2: There is no significant relationship between students' achievement goal orientation and their academic achievement in mathematics.

Table 7. The test for Significant Relationship between students' Achievement goal orientation and their Academic Achievement in Mathematics.

Variable	Pearson (r) with students achievement	p-value	remark
Mastery approach	.076	.065	N S
Mastery avoidance	.082	.044	N S
Performance approach	.041	.315	S
Performance avoidance	.007	.873	NS
Work avoidance	-.088	.031	S

S- Significant correlation at 0.05 level of significant

NS- Non-Significant correlation at 0.05 level of significance

The result in table 7 revealed that the relationship between students' mastery-approach, performance-approach, performance-avoidance and their academic achievement in mathematics is not significant ($r = .076 > 0.05$), ($r = .041 < 0.05$) and ($r = .007 < 0.05$) while the relationship between students' mastery avoidance, work avoidance and their academic achievement in mathematics is significant ($r = .082 > 0.05$) and ($r = -.088 < 0.05$). The null hypothesis was accepted.

Hypothesis 3. There is no significant relationship between students' high self-esteem and their achievement goal orientation.

Table 8. The test for Significant Relationship between students' High self-esteem and their Achievement goal orientation.

Variable	Pearson (r) with students achievement	p-value	remark
Mastery approach	.395	.000	S
Mastery avoidance	.332	.000	S
Performance approach	.379	.000	S
Performance avoidance	.262	.000	S
Work avoidance	.136	.001	S

S-Significant correlation at 0.05 level of significance

The result in table 8 revealed that the relationship between students' achievement goal orientation and their high self-esteem significant ($r = .395 > 0.05$), ($r = .332 > 0.05$), ($r = .379 > 0.05$), ($r = .262 > 0.05$) and ($r = .136 > 0.05$). The null hypothesis was accepted.

Hypothesis 4. There is no significant relationship between students' high self-esteem and their achievement goal orientation.

Table 9. The test for Significant Relationship between students' Low self-esteem and their Achievement goal orientation.

Variable	Pearson (r) with students achievement	p-value	remark
Mastery approach	.214	.000	S
Mastery avoidance	.232	.000	S
Performance approach	.291	.000	S
Performance avoidance	.395	.000	S
Work avoidance	.420	.000	S

S-Significant correlation at 0.05 level of significance

The result in table 9 revealed that the relationship between students' low self-esteem and their achievement goal orientation was significant ($r = .214 > 0.05$), ($r = .232 > 0.05$), ($r = .291 > 0.05$), ($r = .395 > 0.05$) and ($r = .420 > 0.05$). The null hypothesis was accepted.

Table 10: Multiple Regression of the Students' Achievement Goal Orientation and Self-esteem on Students' Academic Achievement in Mathematics.

(N = 605)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.186 ^a	.035	.023	11.91329

Model	Change Statistic		df1	df2	Sig. F	Change
	R Square Change	F Change				
1	.035	3.037	7	592	.004	

Model		Sum of Squares	Df	Mean Square	F	Sign.
1	Regression	3017.634	7	431.091	3.037	.004 ^b
	Residual	84020.360	592	141.926		
	Total	87037.993	599			

Table shows a multiple regression run to predict students' academic achievement in mathematics from achievement goal orientation and self-esteem. These variables statistically predicted academic achievement of the students, $F(7,592) = 3.037$, with R^2 of 3.5%. Students' achievement goal orientation and self-esteem significantly predict academic achievement in mathematics, $P < .05$. Thus, there is a low positive relationship between students' achievement goal orientation and self-esteem and their academic achievement in mathematics.

V. DISCUSSION

Findings in table 1 revealed a very low positive relationship between students' self-esteem and academic achievement in mathematics. The findings supported the study of Pooja (2016) that examined the relationship between self-esteem and academic achievement of secondary school students' in Jammu District. Pooja's results recorded a significant correlation between positive-self males and their academic achievement. A positive and significant correlation was found between negative-self females and their academic achievement. Also, in the study of Vishalakshi and Yeshodhara (2012), that studied the relationship between self-esteem and academic achievement of secondary school students of Mysore city, their findings does not support the result of the present study as their result recorded a positive relationship between self-esteem and students' academic achievement.

Findings in table 2 revealed that the out of the five components of the achievement goal orientation, mastery-approach, mastery-avoidance, performance-approach and performance-avoidance recorded a very low positive relationship with their academic achievement in mathematics while work-avoidance goal orientation recorded a very low negative relationship with students' achievement in mathematics. The results also revealed that the relationship between students' mastery-approach, mastery-avoidance and performance-avoidance and their academic achievement in mathematics is not significant while the relationship between students' performance-approach, work-avoidance and their academic achievement in mathematics is significant. The study of Maurice, Lezley-Anne, Alan and Karen (2015) that examined the association between achievement goal orientations and academic performance among students at a UK pharmacy school supported the present study. Their results recorded that the five components of achievement goal orientation were strongly positively correlated with students' academic achievement. Findings in table 3 revealed that the relationship of students' high self-esteem and their achievement goal orientation recorded a very low positive relationship. The findings from the study of Bahrami and Bahrami (2015) that examined the correlation of self-esteem and achievement goal of Iranian students supported the present study's findings as their recorded that mastery-approach and performance-approach have high scores in relation with self-esteem while the mastery-avoidance and performance-avoidance recorded a low score with self-esteem. Their mastery-approach and performance-approach had a positive relationship with self-esteem but their mastery-avoidance and performance-avoidance had a negative correlation with general self-esteem.

Findings in table 4 revealed that the relationship between students' low self-esteem and their mastery-approach, mastery-avoidance, performance-approach and performance-avoidance goal orientation recorded a very low positive relationship while the relationship between students' work-avoidance goal orientation recorded a low positive relationship with their self-esteem. These findings are in support with the study of Bahrami and Bahrami (2015) findings as had been mentioned above. Findings in table 5 revealed that the proportion of variance in academic achievement in mathematics that is explained by students' achievement goal orientation and self-esteem is 35%. Findings in table 6 revealed that the relationship between students' self-esteem and academic achievement in mathematics is significant. Rahmani (2011) result does not support present study as both high and low self-esteem had no significant relationship with students' mean scores of all courses in semester. Bahrami and Bahrami (2015) supported the present study as their result recorded that self-esteem has statistical significant with mathematics scores. Findings in table 7 revealed that the relationship between mastery-approach, performance-approach and their achievement in mathematics is not significant, while the relationship between students' mastery-avoidance, work-avoidance and their academic achievement in mathematics is significant. The study of Bahrami and Bahrami (2015) does not support the present study as their result indicated that none of the achievement goal orientation was statistically significant with academic achievement. Findings in table 8 indicated that the relationship between students' achievement goal orientation and their high self-esteem is significant. Also, in table 9 the relationship between students' low self-esteem and their achievement goal orientation is significant. The study of Rahmani (2011) does not support the present study as Rahmani's result recorded that there was no significant differences on the boys and girls self-esteem scores with mastery-approach scores. Findings in table 10 shows that a multiple regression run to predict students' academic achievement in mathematics from achievement goal orientation and self-esteem, revealed that these variables statistically predicted academic achievement of the students.

VI. CONCLUSION

The primary purpose of this study is to examine if there is a relationship among students' self-esteem, achievement goal orientation and their academic achievement in mathematics. The imperative issue concerning whether students' self-esteem and achievement goal orientation could jointly predict their academic achievement should be urgently addressed. Finally, a multiple regression run to predict students' academic

achievement in mathematics from self-esteem and achievement goal orientation statistically predicted academic achievement of the students in mathematics.

VII. RECOMMENDATIONS

Based on the findings, the following recommendations were made.

1. Teachers should apply enhancing strategies to improve students' self-esteem and their achievement goal orientation for these personality constructs will lead to better achievement in some courses if properly developed.
2. More studies are needed on self-esteem and achievement goal orientation for the variables predicted positively in determining academic achievement in mathematics.
3. Considering that the academic achievement is one of the most important indicators of learning and understanding in all education systems, those involved in children's educational system with indentifying and improving the effective factors of children's academic achievement, such as self-esteem and achievement goal orientation, can help children to be more successful in academic achievement.
4. As the findings from the study revealed low positive relationship among the variables of the study, it means that teachers should adopt a new teaching strategy that will facilitate positive development of students' self-esteem for this will enhance their academic achievement at the optimal level.
5. Parents as the first primary care givers of the children should work seriously on their children's achievement goal orientation for this personality construct will influence their children's academic outcome if properly augmented.
6. The predictive strength of self-esteem and achievement goal orientation in predicting students' academic achievement shows that the two independent variables are facilitators and indicators academic achievement, therefore, both teachers and significant others should advice students endorse these constructs so that their academic achievement will be at the optimal level.
7. It is necessary to give adequate and sufficient attention to the self-esteem and achievement goal orientation and teachers should be offered methodological guidance in order to work on these through the educational process, in order that this type of psych-educational intervention may serve as an avenue to improve academic achievement.
8. Identifying, self-esteem and achievement goal orientation as two personality constructs is crucial for unleashing students' potential in a critical stage for cognitive, social and emotional development.
9. It is also recommended that in order to optimize students' mathematics achievement, they should be actively engaged in more participative learning activities in mathematics classroom, during this activity focus should be given to their academic self-esteem and their achievement goal orientation for the proportion of variance in academic achievement in mathematics that was explained by students' achievement goal orientation and self-esteem is too poor.
10. Finally, when designing mathematics activities, it important that self-esteem and achievement goal orientation are accounted for they will facilitate the possible benefit and also impact on learning and understanding of mathematics concepts.

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