

**IMPACT OF CRITICAL THINKING SKILLS AND PEER
ASSESSMENT ON SENIOR SECONDARY SCHOOL STUDENTS'
PERFORMANCE IN MATHEMATICS IN DELTA STATE, NIGERIA**

BY

ASUAI, NELSON CHUKWUYENUM

FEBRUARY 2014

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**A THESIS IN THE DEPARTMENT OF EDUCATIONAL FOUNDATIONS
(WITH PSYCHOLOGY)**

**SUBMITTED TO THE SCHOOL OF POSTGRADUATE STUDIES,
UNIVERSITY OF LAGOS**

**IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD
OF THE DEGREE OF DOCTOR OF PHILOSOPHY (Ph.D) IN
MEASUREMENT AND EVALUATION**

FEBRUARY, 2014

APPROVAL

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CERTIFICATION

This is to certify that the Thesis:

**IMPACT OF CRITICAL THINKING SKILLS AND PEER ASSESSMENT ON
SENIOR SECONDARY SCHOOL STUDENTS' PERFORMANCE IN
MATHEMATICS IN DELTA STATE, NIGERIA**

Submitted to the School of Postgraduate Studies, University of Lagos

For the award of the degree of

DOCTOR OF PHILOSOPHY (Ph.D.)

is a record of original research carried out

BY

ASUAI, NELSON CHUKWUYENUM

in the Department of Educational Foundations

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DEDICATION

This piece of work is dedicated to Almighty God who has been my strength, my anchor and my defence.

ACKNOWLEDGEMENTS

All honour, glory and adorations belong to God for sparing my life till this moment and for giving me the courage to face the rigours of life confidently with a trusting mind. Surely, this is the fulfillment of his promise in Habakuk 2: 3.

I am greatly indebted to my wonderful supervisors: Professor Guy Ilogu and Professor (Mrs) Ayoka Mopelola Olusakin whom God used for me to attain this academic status. Words on paper are not enough to appreciate your countless efforts and contributions which include provisions of needed materials, prayers, and moral moderation in the course of this programme. I found significant favour with you and indeed you ensured the well being at every moment during this research in spite of your busy schedule, I had both physical and electronic access to them. Also, you attend to research my work without delay and encouraged me at critical moments. Profs I am indeed grateful for all those wonderful things you have done in my life and God in his infinite mercies shall continue to be your guide and abide by you.

I also acknowledge the contributions of my Lecturers: Professor (Mrs) Omoegun, O.M, Professor Osarenren, N (former Commissioner of Education, Edo State), Dr (Mrs) Abe, I.I, Dr. Okoli, C.E, Dr. Nwadinigwe, I.P, Dr (Mrs) Makinde B, Dr. Ubangha, B. M, Dr (Mrs.) Alade, Rev (Fr) Dr. Isichei, F. M, Dr. Sola Aletan and Dr. Oni, A. A . These are my wonderful lecturers whose constructive criticisms, encouragement and assistance at the various seminars made the work what it is today.

I seize this opportunity to express my sincere appreciation to members of the Academic programme committee (APC), University of Lagos, especially Dr Adedun, E.A, (Sub Dean, PG School), Prof Ojikutu, R.K, Prof. Okunuga, S.A, Prof. Obashoro J, Dr.Agiobu, K., I, Dr. Nnorum, C.CP, Dr (Mrs) Onyene, V, Dr (Mrs) Igwe, I and Dr. Lawa-Are, A.O whom on several occasions made very useful contributions to my work and indeed at APC seminars. May God almighty continue to bless you all in Jesus name; amen.

Moreover, a very special appreciation goes to my wonderful Team mates and colleagues. (Team 15): Dr.Asamoah, K, Dr (Mrs.) Akande A. E, Dr (Mrs) Iyayi M, Dr. Ayeobasan, A, Dr (Mrs) Ettu, T, Dr (Mrs.) Azuka, U, Dr.(Mrs). Elumono A, Mrs Madueke I, Mrs. Adeleye, B, Mrs.Iwuagwu, J, Mrs. Aiyeyika, F, Mr.Jimoh J, Mrs. Weli, F and our

Father in the Lord Revd. Bamgbose, J. I thank you all for giving me the moral and financial support.

I wish to personally thank Mrs Adeleye Bunkunola my reading partner for her constructive criticism, contributions, cooperation and moral advice given to me throughout this programme. May Almighty God continue to bless her and her family in Jesus name Amen.

My friends and colleagues Dr. J.F Egbule (late), Dr (Mrs) Stella Anyama, Dr Peace Israel, Dr (Mrs) Favour Nwolisa, Dr Johnson Fakorede, Dr. Jonathan Akinteye, Ms.Ebele Oputa, Mr. James Onyeashea, Mr. Lawrence Oduma, Mrs Bivese-DJebah Philomena, Mrs Pricilia Okeleke, Evangelist Edak Efretuei, Mrs Josephine Ibili, Rev. Sister Foster Manafa, Mrs Tonye Dimogu, Pastor Olasebikan Shola, Mr. Charles Omoera, Mr. Aloy Okafor, Mr.Segun Oke, Ms Folake Ariyo Dolapo and Mr. Duruike Churchill who in one way or the other have offered financial support and useful contributions to my work. May God bless you abundantly. Others are Comrade S.N Ibe, comrade Korubo, Mr. Onyembga Alex, Mr. Oyeni Patrick, Mr. Iheosonye Friday, Mr. Ekaba Anthony, Mrs NkoyoEromosele, Bar. Uju Nwajuaku, Mr. Kumapayi Folusho, Mr. Mike Odili, Mr Frank Idu, Mr. Peter Ebokaiwe, Mr.Ekute Moses, Mr. Blessing Osezuah, Mrs Ibe Mariann, Mr. Kola Maiyegun, Miss Linda Idoboiwa, and Miss Nubi Toyin who in one way or the other have offered moral and financial support to my work. May God bless you abundantly. The administrative staff of the Department: Mrs Kehinde Ogunlabi, Mrs. Folashade Adefila, Mrs Shobande and Mrs Solarin were very supportive and cooperative during this programme, may the good Lord continue to support you all.

My Mother, Mrs. Diana Okochi Asuai. I am indeed very grateful; despite your financial challenge you laboured all through the days and night in the thick forest of Umuaja tilling the soil for very little income while I followed you helplessly. You reiterated that “my son! You will not be a labourer like me”, You emphasized that I should study hard, and God helped you to see me through, indeed I concurred and today, Glory be to God. Nnem, May God bless you.

My mentor Dr. Ronald Eyime (Former Registrar, Optometrists and Dispensing Opticians Board of Nigeria and Commissioner of Science and Technology, Delta State). I thank you so much for giving me the courage, motivation and confidence that I can do it. You stood by me and provided me an enabling environment, you tolerated my excesses and encouraged me so

much to do this. God in His infinite mercies will bless you and your family. Dr Samuel Edu Ntem (Registrar, Optometrists and Dispensing Opticians Board of Nigeria), I thank you so much for your encouragement and for providing an enabling environment for me to succeed in the programme. I also thank all the staff of Optometrists and Dispensing Opticians Board of Nigeria for their moral support. May God bless you all.

I am equally indebted to my brothers and sisters Messers. Asuai, Monday, Asuai, Solomon, Asuai, Anthony, Asuai, Richard, Asuai, Joseph, Mrs Elizerbeth Nwanzu Odebala and Mrs Ossai Okonye; your immense contributions during this study are beyond what I can say here but I thank you so much for this wonderful brotherly and sisterly gesture may the good Lord continue to guide you forever. My Pastors: Pastor Oduntan , Pastor Okafor, and Pastor Odusanya Paul are appreciated for their fervent prayers during this programme, may the peace and love of God continue to abide with you forever.

My sincere gratitude goes to the Principals, Vice Principals, HOD (Mathematics) and Mathematics teachers of those schools where' the data for this study were collected and' also to the students who were the participants in this study. I also say a big thank you to all the research assistants who worked with me during this period.

Finally, my darling wife, (Mrs.) Asuai, Patricia Ifeyinwa who brought peace into my life, comforted my soul and continued reassuring me that it would be well and indeed it is well. I say thanks to you my dear because in you I found peace and love. So shall peace and love of God continue to abide with you. Amen. My niece Miss Onyekachi Patience Nwanchukwu thank you for your assistance and efforts.

My handsome sons: Chibuzor and Jerry and my beautiful daughters: Favour and Joan, you endured my absence from home during this study and by God's Grace, you shall all be greater than me in Jesus name Amen.

Above all, all glory to the Lord who is worthy of my praise for the fulfilment of his promise to me as stated in Ephesians 3:20.

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ABSTRACT

The study examined the impact of Critical Thinking Skills and Peer Assessment on performance in Mathematics among senior secondary school students in Delta State. Critical Thinking is the ability to think clearly and rationally in understanding the logical connections between ideas and constructs, evaluate arguments, detect inconsistent reasoning, solve problems systematically, identify the relevance of ideas, and engage in reflective and independent thinking. Peer Assessment on the other hand is an assessment method through which the peers exchange their work in order to critically examine the learning progress of each peer. This is because exchange of work gives students the opportunity to learn from one another which help in improving performance in Mathematics. Eight research questions were raised and Eight research hypotheses were equally generated to guide the study. Descriptive survey and quasi-experimental pre-test/ post-test control group designs were adopted for the study. Multi-stage sampling techniques were applied to select a sample of 212 students (113 boys and 99 girls) drawn from four schools. Three research instruments were used for the study and they were: Mathematics Performance Tests (MPT), Watson-Glasser Critical Thinking Appraisal (W-GCTA), and Peer Assessment Scale in Mathematics (PASM). Analysis of Covariance (ANCOVA) and Multiple Regression Analysis tool was used to analyse the data. All hypotheses were tested at 0.05 level of significance. Results of the data analysis revealed that the participants who were exposed to training instructions performed significantly better in Mathematics than those in the control group. The study also revealed that there was no significant main effect of gender on students performance in Mathematics. Moreover, the study revealed that there was no significant main effect of age on students performance in Mathematics, the study also found out that there is no significant interaction effect of experimental conditions and gender on students performance in Mathematics. The study revealed that there is no significant interaction effect of experimental conditions and age on students performance in Mathematics. Furthermore, there is no significant interaction effect between gender and age on students performance in Mathematics. The study also found out that there no significant interaction effect between experimental conditions, gender and age on students performance in Mathematics. Finally, Critical Thinking Skills and Peer Assessment were found to have had significant linear effects on Mathematics test scores. Based on the findings of this study, recommendations were made with the hope that if implemented, the performance of students would improve. The recommendations made include: infusion of Critical Thinking Skills and Peer Assessment into the school curriculum. Critical Thinking should be made a compulsory topic in all subjects because it aids students learning especially when faced with difficult problems. Peer Assessment should be made compulsory for use by all teachers in secondary schools to enable students participate actively in the teaching and learning process which would give them opportunity to learn from one another.