

**UNIVERSITY OF EDUCATION, WINNEBA**  
**SCHOOL OF EDUCATION AND LIFELONG LEARNING**  
**DEPARTMENT OF BASIC EDUCATION**  
**CURRICULUM VITAE**

**ASSOCIATE PROFESSOR CLEMENT AYAREBILLA ALI (Ph.D.)**

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**ORCID:** <http://orcid.org/0000-0002-3268-6452>

### **PERSONAL PROFILE**

- Associate Professor and Researcher with **13 years** of experience in teaching mathematics and its related courses in both undergraduate and postgraduate education.
- Tutor and Lecturer with **26 years** of experience in teaching mathematics and its related courses in tertiary education in Ghana
- Teacher, Tutor, and Lecturer with **33 years** of experience in teaching and administration in both tertiary and pre-tertiary education in Ghana
- Written over **5** concept papers and proposals for grant funding
- Supervised over **150** Bachelor of Education project works, **20** Master of Education dissertations, and **10** Master of Philosophy theses.
- Authored and co-authored **11** mathematics education books/chapters.
- Published over **41 articles** in peer-reviewed journals and **35 conference papers** in peer-reviewed conference proceedings.
- Reviewer of over **21 reputable** international journals and publishing houses
- Internal and external assessor of **4** Universities
- Married with **3** children

### **EDUCATION AND QUALIFICATIONS**

#### **2020 Ph.D. in Mathematics Education**

Department of Mathematics and ICT Education

College of Science and Technology Education, University of Cape Coast, Ghana

Thesis title: “Conceptual Structures in Extending the Didactical Triad to the Tetrahedron Exemplified in the Teaching and Learning of Equations of the Circle”

Thesis supervisors: Professor Ernest Kofi Davis/Professor Douglas Darko Agyei

#### **2010 M.Sc. in Mathematics**

Department Mathematics

Faculty of Physical Sciences, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana

Thesis title: “Bayesian Analysis of the Incidence of HIV/AIDS in the Upper East Region of Ghana”

Thesis supervisors: Dr. Francis Takyi Oduro, Prof. S. K. Sarpong

### **2009 M.Ed in Mathematics Education**

Department of Mathematics Education, Faculty of Science Education, University of Education, Winneba, Ghana

Dissertation title: “Using Excel to Improve on the Teaching and Learning of Probability in College of Education: An Action Research of Gbewaa College of Education, Pusiga-Bawku”

Supervisor: Prof. Issifu Yidana

### **2004 B.Ed in Mathematics Education**

Department of Mathematics Education, Faculty of Science Education, University of Education, Winneba, Ghana

Project work title: “Understanding Relational Concepts of Mensuration in Teacher-Training Colleges in Ghana: A Case Study of St. John Bosco’s College of Education, Navrongo”

Supervisor: Mr. Michael Ampiah

### **2004 Diploma in Statistics**

Institute Statistical, Social and Economic Research (ISSER), University of Ghana, Legon

Project work title: N/A

### **2001 Certificate in Statistics**

Institute Statistical, Social and Economic Research (ISSER), University of Ghana, Legon

Project work title: “Understanding Banking Cycle of Consumers in Ghana Commercial Bank, University of Ghana Branch”

Supervisor: Dr. S. Kwame Gyekye

### **1997 Three-Year Teacher’s Post-Secondary Certificate ‘A’**

St. John Bosco’s College of Education, Institute of Education, University of Cape Coast

Project work title: “Effect of Malnutrition on the Academic Performance of Pupils in Naaga Traditional Area”

Supervisor: Mr. Salifu Azutiga

## **EMPLOYMENT AND TEACHING EXPERIENCE**

### **Associate Professor, Mathematics Education, Department of Basic Education**

- University of Education, Winneba, 2022—date
- Teaching Mathematics Education, Curriculum Studies, Measurement and Evaluation, and Research Methods at both postgraduate and undergraduate courses, including supervision of theses, dissertations, and project works at regular, sandwich, and distance modes

### **Senior Lecturer, Mathematics Education, Department of Basic Education**

- University of Education, Winneba, 2014–2022
- Teaching both postgraduate and undergraduate courses, including supervision of theses, dissertations, and project works at regular, sandwich, and distance modes

**Lecturer, Mathematics Education, Department of Basic Education**

- University of Education, Winneba, 2011–2014
- Taught mainly undergraduate courses, including supervision of project works and internship at regular, sandwich and distance modes

**Lecturer, Statistics, Department of Statistics and Applied Arts**

- Bolgatanga Technical University (then Bolgatanga Polytechnic), Ghana, 2010–2011
- Taught a total of 5 undergraduate courses, mainly focused on statistical analysis, regression analysis, quantitative analysis, econometrics, and calculus

**Assistant Director II, Tutor, Assist. Housemaster (Nicholson), Head of Department of Mathematics and ICT Education, College Chaplain**

- Gbewaa College of Education, Pusiga-Bawku, 2004–2010
- Taught mainly certificate and diploma mathematics, ICT, and research methods courses, including supervision of project works and internship

**Tutor, Mathematics Education (internship), Department of Mathematics Education**

- St. John Bosco's College of Education, Navrongo, 2003–2004
- Taught mainly Certificate in Mathematics Education courses

**Assistant Sup't, Assist. Headmaster, Mathematics, Integrated Science, CDT**

- Afeghera Junior High School, Zuarangu, Bolgatanga, 1999-2000
- Taught mathematics, integrated science, carpentry, technical drawing, and agricultural science

**Classroom Teacher, Sportsmaster, CRS School Assistant Programme Officer**

- Biu Primary School, Navrongo 1997-1999
- Taught mathematics, natural science, English language, religious and moral education, and agricultural science

## PROFESSIONAL RESPONSIBILITIES HELD

Position	Office/Location	Period
Coordinator of FABSE Seminars	Faculty of Applied Behavioural Sciences in Education, UEW, Winneba, Ghana	January 15, 2024
Ph.D. Course Structure	Department of Basic Education, UEW, Winneba, Ghana	December 12, 2023
External Moderator	Entrepreneurship Training College of Education, Kumasi	December 1, 2023, to date
External Moderator	Golden Star College of Education, Kumasi	December 1, 2023, to date
Member	Akosombo Floods Committee, FABSE	October 25, 2023
Chairman	Ethical Review and Research Chairman, FABSE	October 15, 2023
Vice Dean	Faculty of Behavioural Sciences in Education (FABSE)	October 1, 2023 to August 31, 2025
Lead Trainer	Centre-Based Training on Supported Teaching in Schools, Ashanti Region Zone 1	September 14-30, 2023
Chairman	Departmental Long Essay Committee	February 2023
Chairman	Departmental Mathematics and Science Committee	February 2023
Member	Departmental Graduate Board Committee	February 2023
External Moderator	Entrepreneurship Training Institute, Diploma in Early Childhood Education (ECM114, ECM245), Accra	April 25, 2022
External Assessor	Department of Early Childhood Education, Faculty of Educational Studies, University of Education, Winneba, Ghana	March 1, 2022, to date
Ph.D. Team Lecturer	Faculty of Educational Studies, University of Education, Winneba, Ghana	January 1, 2022
MPhil Team Lecturer	Faculty of Educational Studies, University of Education, Winneba, Ghana	January 1, 2022
Ag. Head	National Centre for Research into Basic Education, University of Education, Winneba	August 1, 2021 to March 1, 2022
Course Coordinator, General Education	College of Distance and e-Learning, University of Education, Winneba	August 1, 2020, to date
External Assessor	Faculty of Educational Studies, University of Education, Winneba	August 1, 2018
Internal Assessor	Faculty of Educational Studies, University of Education, Winneba	August 1, 2018
Postgraduate Students' Lecturer and Supervisor	Department of Basic Education, University of Education, Winneba	August 1, 2017, to date
Postgraduate Students' Lecturer and Supervisor	College of Distance and e-Learning (CODEL), University of Education, Winneba	August 1, 2016, to date
Department's Examinations Officer	Department of Basic Education, Faculty of Educational Studies, University of Education, Winneba	August 1, 2017 to July 31, 2019
Academic Counsellor	Department of Basic Education, Faculty of Educational Studies, University of Education, Winneba	August 1, 2012, to date

## BOARDS AND COMMITTEES

Board/Committee	Appointment	Year
Member, Department of Educational Administration/Management Investigation	Dean, School of Education and Lifelong Learning	12/04/2024
Chair, CODEL Examinations Disciplinary Committee	Vice Chancellor, University of Education, Winneba	01/02/2024
Chair, Post Diploma in Basic Education Curriculum	Head, Department of Basic Education, UEW	05/01/2024
Chair, Diploma in Basic Education Curriculum	Head, Department of Basic Education, UEW	15/01/2024
Member, PhD in Basic Education Curriculum	Head, Department of Basic Education, UEW	15/12/2023
Chair, Faculty Conferences and Seminars	Dean, Faculty of Applied Behavioural Sciences in Education, UEW	10/10/2023
Member, CODEL Disciplinary	Vice Chancellor, University of Education, Winneba	10/05/2023
Chair, Project Work	Head, Department of Basic Education, UEW	10/10/2022
Chair, Science and Mathematics	Head, Department of Basic Education, UEW	10/10/2022
Member, University Academic Board (Prof.)	Vice Chancellor, University of Education, Winneba	12/06/2024
Member, SELLL Academic Board (Prof.)	Dean, SELLL	12/06/2024
Chair, Project Work	Head, Department of Basic Education, UEW	10/10/2021
Member, Faculty Board (Exams. Officer)	Dean, Faculty of Educational Studies, UEW	10/10/2017
Member, Faculty Graduate Studies	Head, Department of Basic Education, UEW	10/08/2017

## INTERNAL AND EXTERNAL THESIS ASSESSOR

Role	Location	Year
Ph.D., External Assessor	University of the Free State, South Africa	April 2024
M.Phil External Assessor	School of Graduate Studies, University of Cape Coast, Ghana	November 2021
M.Phil External Assessor	School of Graduate Studies, CKT University of Technology and Applied Sciences, Navrongo, Ghana	October 2020
M.Ed External Assessor	School of Graduate Studies, University of Education, Winneba, Ghana	September 2017
PGDE, External Assessor	School of Graduate Studies, University of Education, Winneba, Ghana	September 2017

## INTERNAL AND EXTERNAL STAFF ASSESSOR

Role	Location	Year
Internal Staff Promotion	Faculty Educational Studies, University of Education, Winneba, Ghana	October 2018
External Staff Examination	Faculty Educational Studies, University of Education, Winneba, Ghana	September 2018
Internal Staff Recruitment	Department of Basic Education, Faculty of Educational Studies, University of Education, Winneba, Ghana	November 2017
Internal Staff Promotion	Institute of Teacher Education and Continuous Professional Development (ITECPD), Winneba, Ghana	October 2021

## EDITOR OF JOURNALS

<i>Journal</i>	<i>Year</i>
<i>Editorial Board Member</i> , Institute of Industry and Academic Research Incorporated (IIARI), IJSTEM, Philippines	April 26, 2024
<i>Editor</i> , Jurnal Ilmiah Pendidikan Matematika	February 16, 2024 to date
<i>Editorial Board</i> , SCIREA Journal of Education, Rockefeller Plaza, New York, USA	December 25, 2023, to date
<i>Section Editor</i> , Forum for Philosophical Studies (FPS) for Phenomenology, Academic Publishing Pte Ltd	December 20, 2023, to date
<i>Editorial and Advisory Board</i> , Education and Science Journal of Policy Review and Curriculum Development (ESJPRCD)	December 10, 2015 to date

## REVIEWER OF JOURNALS

<i>Reviewer/Editor</i>	<i>Year</i>
Journal of Mathematics Teacher Education	March 7, 2024, to date
Futurity Education	February 16, 2024, to date
Jurnal Ilmiah Pendidikan Matematika	February 16, 2024 to date
Indonesian Journal of Science and Mathematics Education	Nov. 29, 2023 to date
International Journal of Mathematics Trends and Technology (IJMTT)	June 10, 2023, to date
IJRDO -Journal of Mathematics	June 9, 2023, to date
Jurnal Pendidikan Matematika RAFA (Mathematics Education Journal RAFA)	May 9, 2023 to date
Social Education Research (SER), Universal Wiser Publisher	November 2, 2022, to date
Al-Tabar Journal of Pendidikan Matematika---Journal of Mathematics Education	August 15, 2022, to date
Eurasia Journal of Mathematics, Science and Technology Education (EJMSTE)	March 20, 2022, to date
Digital Conference Proceedings/Academic Integrity and Quality Assurance	January 18, 2022, to date
American Journal of Applied Mathematics (AJAM)	January 17, 2022, to date
Journal of Urban Mathematics Education (JUME)	Nov. 20, 2021, to date
Journal on Mathematics Education (JME)	October 20, 2021 to date
International Journal for Mathematics Teaching and Learning (IJMTL)	July 15, 2021, to date
Integrity Journal of Education and Training (IJET)	June 15, 2021, to date
Association Mathematics Education South Africa (AMESA)	May 30, 2021, to date
International Journal of Educational Policy Research and Review (IJEPRR)	October 31, 2020, to date
Journal of STEM Education: Innovations and Research (JSTEM)	Sept. 30, 2019 to date
African Educational Research Journal (AERJ)	Sept. 18, 2018 to date
REDIMAT – Journal of Research in Mathematics Education	April 29, 2018 to date
Merit Research Journal of Education (MRJE)	Nov. 10, 2017 to date
Researchjournali’s Journal of Mathematics (RJM)	July 10, 2016 to date
UTTDBE Course Manual on Methods of Teaching Mathematics, UTTDBE Course Manual on Geometry and Trigonometry, UCC/Ministry of Education	July 10-15, 2006

## REVIEWER OF CONFERENCE PROCEEDINGS

<i>Reviewer/Editor</i>	<i>Year</i>
Reviewer, ICME-15-TSG, Australia	November 17, 2023, to date
Association Mathematics Education South Africa (AMESA)	May 30, 2021, to date
Stellenbosch University Experiential Education Conference, South	June 2020 to date

Africa	
British Congress of Mathematics Education (BCME9),	June 15, 2018 to date
World Education Research Association (WERA)	March 5, 2018
Southern African Association for Research in Mathematics, Science and Technology Education (SAARMSTE2018)	January 1, 2018, to date
International Group for the Psychology of Mathematics Education (IGPME)	September 1, 2017, to date
Innovative and Creative Education and Teaching International Conference (ICETIC)	June 10, 2017 to date

### REVIEWER OF BOOK CHAPTERS AND MANUALS

<i>Title</i>	<i>Year</i>
PBM351: Teaching and Assessing Mathematics for Upper Primary (Intermediate)	October 19, 2022
EGM241: Teaching and Assessing Early Grade Mathematics (Introductory)	March 3, 2023

### EXAMINATIONS OF POST-GRADUATE RESEARCH THESES

Master of Philosophy in Mathematics Education, C.K. Tedom University of Technology and Applied Sciences, School of Science and Technology Education, Department of Mathematics Education  
October 2021 to date

Master of Philosophy in Mathematics Education, Department of Mathematics and ICT Education,. Faculty of Science and Technology Education, University of Cape Coast, Ghana  
September 2021 to date

Master of Philosophy in Basic Education, Department of Basic Education, University of Education, Winneba, Ghana  
October 2020 to date

Master of Education in Early Childhood Education, Department of Early Childhood Education, University of Education, Winneba, Ghana  
July 2018 to date

Master of Education in Mathematics Education, College of Distance and e-Learning, University of Education, Winneba, Ghana  
June 2018 to date

Post Graduate Diploma in Education, College of Distance and e-Learning, University of Education, Winneba, Ghana  
June 2017 to date

### SAMPLE SUPERVISIONS OF POST-GRADUATE RESEARCH THESES

(A). **Master of Philosophy in Mathematics Education**, C.K. Tedom University of Technology and Applied Sciences, School of Science and Technology Education, Department of Mathematics Education

**11. February 2024:** Atiah Asiniba Desmond (20210708046): An Assessment of Ghanaian Teachers' Readiness Towards the Implementation of the New Mathematics Curriculum in Senior High Schools: The Case of Kasena-Nankana Municipality

10. **December 2023:** Azobit Charles Awindago (20210708090): Assessing Senior High School Students' Knowledge and Practices in Solving Word Problems in Linear Equations in Bawku West District
9. **December 2023:** Comfort Azuuga (20200708107): Effective classroom management, a measure in curbing students' mathematics anxiety in Senior High Schools in the Upper East Region of Ghana
8. **December 2023:** Edward Ike Atawura (20200708102): Addressing the Poor Performance of SHS Students in Calculus Using the Graduated Sequence
7. **November 2023:** Alorki Issaka (20200708092): An Analysis of JHS Students' Attitudes towards Mathematics and its Effect on Academic Achievement: The Case of Savelugu Municipal
6. **November 2023:** Ndebil Matthew Bugre (20210708262): Influence of Cooperative Learning Instructional Method on Mathematics Performance of Selected Senior High School Students in Bolgatanga Municipality
5. **October 2023:** Tuumyeridam Edward Kaba (20210608064): Mathematics Teachers' Knowledge and Use of ICT Tools in Instructional Delivery in Senior High Schools in Kassena Nankana West District
4. **November 2022:** Faruq Aidoo (20210708029): Investigating Students' Conception of the Properties of the Circle Theorem Using Dynamic Geometry Software: The Case of Azantilow Senior High Technical School
3. **August 2022:** Mohammed Mutawakil Issahaku (20200708116): The Nexus of Gender and Student Academic Performance in Mathematics: Evidence From Senior High Schools in The Sagnarigu Municipality of Northern Region of Ghana
2. **July 2022:** Alhassan Abubakari Sadik (20200708091): The Perception of Gender Differences on the Elective Mathematics Achievement of Female Students in Some Selected Senior High Schools in Northern Region
1. **December 2021:** Abdul-Rashid Forgor (20200708113): Senior High School Mathematics Teachers' Beliefs, Knowledge and Practices of Classroom Assessment in Upper East Region of Ghana

**(B). Master of Education in Mathematics Education, College of Distance and e-Learning, University of Education, Winneba**

20. **December 2023:** Charity Tawiah: Academic Performance of Day and Boarding Students in Mathematics in Ashaiman Municipality in the Greater Accra Region
19. **November 2023:** Diana Naa Yabortsoo Owusu (2023): An Investigation into the Factors Influencing Students' Performance in Mathematics at Holy Trinity Cathedral Senior Secondary School, Accra



18. **November 2023:** Evelyn Sika Agbenyenu (2023): Using the Activity Method to Improve Students' Understanding of Probability among Students of Mangoase Senior High School
17. **November 2023:** Eric Quansah (201814170): Reinventing Microsoft Excel to Solve Simultaneous Equations in Two Variables: The Case of Boa Amponsem Senior High School
16. **November 2023:** Dickson Edem Gadoglo: Improving Student's Performance through Concept-Based Instruction in Circle Theorems
15. **March 2023:** Emmanuel Ofori Ofori (220014391): Examining the Role of Mathematics in Improving the Career Opportunities of Technical and Vocational Education and Training in Ghana
14. **December 2022:** John Kwabla Acolatse (202137354): Factors Affecting Low Academic Achievement of Pupils: A Case Study of Anloga District in the Volta Region of Ghana
13. **December 2022:** Michael Gadugah: Exploring GeoGebra for Improving the Teaching and Learning of Circle Theorem in Senior High Schools in Tema
12. **November 2022:** Richard Amponsah (): Factors influencing Junior High School Pupils' academic Performance in Mathematics: The case of Ledzokuku Municipality
11. **November 2022:** Daniel Kofi Tsidi (220021693): The Influence of Languages on the Teaching and Learning of Mathematics in Presbyterian Boys Secondary School Legon
10. **November 2021:** Samuel Kofi Amponsah (201809751): Factors Influencing Low Academic Performance in Mathematics for Junior High School Students in Ledzokuku Municipality in the Greater Accra Region of Ghana
9. **November 2021:** Isaac Agyekum (201804254): Improving Understanding of Circle Theorems among Students of the Upper West Akim District of the Eastern Region of Ghana
8. **November 2021:** David Linford Obodai Laryea (7181850003): The Relationship Between Students' Performance in School Mock Examination and External Examination in Core Mathematics in Ghana
7. **April 2021:** Sylvia Korantemaa Ahwireng (200023584): A Study of Secondary School Students Academic Performance in Core Mathematics at the West Africa Senior School Certificate Examinations and Implications for Educational Policy in Ghana
6. **March 2021:** Prince Kobina Darko: An analysis of the differences in solving systems of linear equations among SHS students in Ghana: The case of Potsin T. I. Ahmadiyya SHS
5. **December 2020:** Gideon Cobbinah (200008027): Class Size and Academic Achievement in Mathematics of Senior High School Students in Sekondi Takoradi Metropolis

4. **November 2020:** Rashid-Abdul Dawda (1809883): Teachers' and Students' Perceptions on the Use of ICT in Teaching Mathematics in Senior High Schools
  3. **November 2020:** Johnson Arthur Charles (1850208): Effect of Improvised Instructional Materials on Student's Academic Achievement in Selected Concepts in Calculus
  2. **November 2019:** Chris Eric Morkle (7171850004): Exploring the Feasibility of Introducing the Methods of Teaching Quadratic Equations in Ghanaian Senior High School Form 1: The Case of Suhum Senior High Technical School
  1. **November 2019:** John Marshall (7171850005): Exploring the expository techniques of teaching and learning mathematics in Ghana: The case of Shama Senior High School.
- C). Master of Philosophy in Basic Education,** School of Education and Lifelong Learning (formerly Faculty of Educational Studies), Department of Basic Education
17. **November 2024:** Mary Twumasi: Gender Participation in the Teaching and Learning of Mathematics in Old Tafo Municipality, Kumasi
  16. **November 2023:** Emmanuel Adokoh (202140554): Effect of Number Patterns on Junior High School Students Transition from Arithmetic to Algebra
  15. **October 2023:** Philip Oduro Nkansah: The Effects of Multiple Representations-Based Instructions on Basic School Pupils' Performance in Addition of Mixed Fractions in La Dade-Kotopon Municipality
  14. **November 2022:** Samuel Kojo Biney: Errors and misconceptions in solving problems in linear inequalities among preservice teachers at Komenda College of Education, Ghana
  13. **November 2021:** Matthew Asakiya: Public SHS mathematics teachers' conceptions and practices of a problem-solving approach to mathematics teaching in Tain District of Ghana
  12. **November 2021:** Osei Razak Kingston: JHS mathematics teachers' content and pedagogical content knowledge in teaching algebra in Sekyere Central District
  11. **October 2021:** Emmanuel Dwamena: Primary School Science Teachers' Perceptions of Authentic Assessment and its Practices in the Effutu Municipality
  10. **October 2021:** Alphaa Ataa Mohammed: Exploring Teachers' Pedagogical Content Knowledge in Teaching Simple Fractions in Primary Schools
  9. **November 2020:** Mary Obeng (8180030015): Mathematics Anxiety among Public Junior High School Two Learners in the Effutu Municipality Of Ghana
  8. **October 2020:** Asoma Collins (8180030024): Mathematics Teachers' Knowledge for Teaching Problem-Solving in Public Junior High Schools in Berekum West District
  7. **June 2020:** Anita Lartey Addico: Basic Education students of UEW perceptions of TPACK on content knowledge preparedness for mathematics integration

6. **October 2020:** Brian Makafui Jordor: Mathematics Teachers' Self-Efficacy Beliefs and Readiness in Implementing the New Primary School Curriculum in Ghana
5. **October 2020:** Charles Kweku Addo: An evaluation of the implementation of the JHS mathematics curriculum in the Effutu municipality of Ghana
4. **October 2019:** Peter Nindow: Impact of Multiple Representations on the Performance of Pupils of Six Garrison Education Units in Fraction
3. **September 2019:** Andrews Gyau: Home factors of basic school pupils and academic achievement in mathematics in the Amansie West District
2. **March 2019:** Godfred Asiedu Mireku: JHS mathematics teachers' knowledge and practices of problem-solving approach in the Mfantseman Municipality
1. **March 2019:** Atar Alphaa Mohammed: Primary School teachers' pedagogical content knowledge in teaching simple fractions in the primary in Wa municipality

#### ARTICLE PUBLICATIONS

41. Ali, C. A., & Tangku, M. (2024). Student-Teacher Experiences in Numeration Systems. *Turkish Journal of Mathematics Education (TJME)*, 1.5 (1), 66-73, available at <https://tujme.org/index.php/tujme/article/view/94/52>
40. Issahaku, M. M., & Ali, C. A. (2024). Exploring Student and Teacher Factors Influencing Students' Performance in Mathematics. *Futurity Education*, 4(2). 45-60. <https://doi.org/10.57125/FED.2024.06.25.03>
39. Ndebil, M. B. & Ali, C. A. (2024). Cooperative Learning as a Strategy of Improving Mathematics Performance and Attitudes. *International Journal of Educational Innovation and Research (IJEIR)*, 3 (1), 62-74. <https://doi.org/10.31949/ijeir.v3i1.7163>
38. Baidoo, J., & Ali, C. A. (2023). Students' Mathematics and Real-Life Contexts in Solving Algebraic Word Problems, *Al-Tabar Journal of Pendidikan Matematika- Journal of Mathematics Education*, 14 (2), 483-500, <http://dx.doi.org/10.24042/ajpm.v14i2.19272>
37. Ali, C. A. (2023). Re-Enacting Affective Mathematics Values through Cultural Symbols. *Indonesian Journal of Science, Technology, Engineering, Art, and Mathematics Education* 2(2), 68-85 <https://ijsteame.ejournal.unri.ac.id/index.php/ijsteame/article/view/13/23>
36. Alorki, I., & Ali, C. A. (2023). Attitudes coded as measures of determining students' performance in mathematics. *Futurity Education*. 3 (4), 198-216. <https://doi.org/10.57125/FED.2023.12.25.12>
35. Ali, C. A. & Davis, E. K. (2023). Pupils' recognition of geometric tessellations as patterns of traditional culture. *Symmetry: Culture and Science*, 34 (3), 251-280. [https://doi.org/10.26830/symmetry\\_2023\\_3\\_251](https://doi.org/10.26830/symmetry_2023_3_251)
34. Ali, C. A. (2023). Using indigenous artifacts to support conceptual field approach of learning special trigonometric angles. *Journal of Mathematics and Science Teacher*, 3(2), 1-11, em047. <https://doi.org/10.29333/mathsciteacher/13698>

33. **Ali**, C. A. (2023). The mismatch between indigenous Ghanaian and Hindu Arabic systems in didactising counting and place value. *Acta Didactica Napocensia*, 16 (1), 51-65. <https://doi.org/10.24193/adn.16.1.4>
32. Biney, S. K. & **Ali**, C. A. (2023). Errors and misconceptions in solving linear inequalities in one variable. *Journal of Advanced Sciences and Mathematics Education [JASME]*, 3 (1), 15-30. <https://doi.org/10.58524/jasme.v3i1.195>
31. Yeng, E., **Ali**, C. A., & Adzifome, N. S. (2023). Relationship between familiarity and competency in integrating information and communication technology into mathematics instruction. *Contemporary Mathematics and Science Education*, 4(2), ep23022. <https://doi.org/10.30935/conmaths/13405>
30. **Ali**, C. A. (2023). Exploration of the ability of preservice mathematics teachers using Kolb's experiential learning theory & learning styles. *Indonesia Journal of Science and Mathematics Education*, 6 (1), 1-16. <https://doi.org/10.24042/ij sme.v6i1.10440>
29. Addico, L. A., **Ali**, C. A., & Adzifome, N. S. (2022). Student-Teachers' Technological Pedagogical Content Knowledge Preparedness for Mathematics Instruction. *Journal of Advanced Sciences and Mathematics Education*, 2(2), 51-63. <https://doi.org/10.58524/jasme.v2i2.116>
28. **Ali**, C. A. (2022). The Didactical Phenomenology in Learning the Circle Equation. *International Electronic Journal of Mathematics Education*, 17(4), 1-11 <https://doi.org/10.29333/iejme/12472>
27. Tangkur, M., Nabie, M. J., & **Ali**, C. A. (2022). Mathematics teachers' knowledge of indigenous games in teaching mathematics. *Al-Tabar Journal of Pendidikan Matematika---Journal of Mathematics Education*, 13 (1), 165-174, <https://doi.org/10.24042/ajpm.v13i1.11693>.
26. Asoma, C., **Ali**, C. A., Adzifome, N. S., & Appiah-Kubi, E. (2022). Mathematics teachers' problem-solving knowledge, practices and engagement among public junior high schools in Berekum West, Ghana. *East African Journal of Education and Social Sciences (EAJESS)* 3(1)29-37. <https://doi.org/10.46606/eajess2022v03i01.0143>.
25. **Ali**, C. A. (2021). Visually impaired student-teacher knowledge and use of basic assistive technology tools for mathematics. *African Educational Research Journal*, 9(4), 945-955, December 2021. <https://doi.org/10.30918/AERJ.94.21.151>
24. **Ali**, C. A., Acquah, S. & Esia-Donkoh, K. (2021). A comparative study of SAM and ADDIE models in simulating STEM instruction. *African Educational Research Journal*, 9(4), 852-859, October 2021, DOI: 10.30918/AERJ.94.21.125.
23. Mohammed, A. A., Nabie, J. M., & **Ali**, C. A. (2021). Exploring Teachers' Pedagogical Content Knowledge in Teaching Simple Fractions in Primary Schools. *Universe International Journal of Interdisciplinary Research*, 2(3), 148-160. DOI: <https://www.doi-ds.org/doilink/09.2021-17284886/UIJIR>, August 2021.
22. **Ali**, C. A., & Anderson, H. K. (2021). Pre-Service Teachers' Pedagogical Content Knowledge in Transferring from Basic Musical Notations to Basic Fractions. *Journal of STEM Education: Innovations and Research (JSTEM)*, 22 (2), 46-50, <https://jstem.org/jstem/index.php/JSTEM/article/view/2431/2226>
21. **Ali**, C. A., Davis, E. K., & Agyei, D. D. (2021). Effectiveness of semiosis for solving the quadratic equation. *European Journal of Mathematics and Science Education*, 2(1), 13-21. <https://doi.org/10.12973/ejmse.2.1.13>

20. **Ali, C. A.** (2021). Ghanaian Indigenous Conception of Real Mathematics Education in Teaching and Learning of Mathematics. *Indonesia Journal of Science and Mathematics Education (IJSME)*, 4(1), 82-93. <https://doi.org/10.24042/ij sme.v4i1.7382>
19. Obeng, M., **Ali, C. A.**, Jones Apawu, J., & Effraim, P. K. (2020). Incidence of Mathematics Anxiety on Junior High Students' Learning of Mathematics in Ghana. *International Journal of Psychology and Education (IJOPE)*, 4(1), 175-186.
18. Marshal, J., & **Ali, C. A.** (2019). Exploring the expository techniques of teaching and learning mathematics in Ghana: The case of Shama Senior High School. *International Journal of Basic Education Research and Policy (IJOBERP)*, 2(1), 184-196.
17. **Ali, C. A.**, Davis, E. K., & Agyei, D. D. (2018). Student-Teachers Applications Didactical Conceptual Structures in the Three Pillars of Constructivism in Parabolas. *International Journal of Basic Education Research and Policy (IJOBERP)*, 1 (1), 78-91.
16. **Ali, C. A.**, & Davis, E. K. (2018). Harnessing Indigenous Basketry Resources for Preamble and Early Number Work. *Journal of Education and Learning (JEL)*, 7 (2), 201-220, <http://doi.org/10.5539/jel.v7n2p210>
15. **Ali, C. A.**, & Apawu, J. (2016). Boosting student-teacher conceptual structures in special angles in basic trigonometry. *Merit Research Journal of Education and Review*, 4(11), 1-6.
14. **Ali, C. A.**, & Agyei, D. D. (2016). Preservice teachers' technological, pedagogical, and content knowledge in utilizing Merrill's first principles in solving polynomials. *Merit Research Journal of Education and Review*, 4(10), 133-142.
13. **Ali, C. A.**, & Wilmot, E. M. (2016). Pre-Service Teachers' Didactic Conceptual Structures in the Absolute and Quadratic Inequalities. *IOSR Journal of Mathematics*, 12 (4), 62-69.
12. **Ali, C. A.**, & Akayuure, P. (2016). Student-Teachers' Knowledge and Skills in Contemporary Quantitative Methods in Action Research Reporting. *IOSR International Journal of Research and Method in Education*, 6(3), 34-42.
11. **Ali, C. A.**, & Oduro, F. T. (2016). Contemporary Mathematical Tools of Forecasting: Overview of Metropolis-Hastings Algorithms. *International Journal of Engineering Sciences & Research Technology*, 5(5), 351-357
10. **Ali, C. A.**, & Akayuure, P. (2016). Infusing Competencies and Skills of Vocational Instructors Innovations to Boost Science and Technology for National Development. *American Scientific Research Journal for Engineering, Technology and Sciences*, 18(1), 219-234.
9. Akayuure, P., & **Ali, C. A.** (2016). Incorporating Indigenous Bukre Game into Mathematics Lessons: A Teaching Experiment. *Researchjournali's Journal of Mathematics*, 3(1), 1-15.

8. **Ali**, C. A., Adzifome, N. S., Addison, A. K. (2016). Contemporary Issues of Basic Education in Ghana; Principal Component Extractions of Swot Matrix for National Development. *International Journal of Strategic Research in Education, Technology and Humanities*, 3(1), 1-16.
7. **Ali**, C. A., & Akayuure, P. (2016). Exploring Postgraduate Students' Research Knowledge and Skills in Normality Tests and Verification. *US-China Education Review 'A'*, 6(1), 53-62.
6. **Ali**, C. A., & Zuure, D. N. (2015). The Dietary Right of Children and Its Effect on Pupils' Performance in Mathematics in Rural Ghana: The Voices of Stakeholders in Naaga Traditional Area. *Education and Science Journal of Policy Review and Curriculum Development*, 5(1), 29-40.
5. **Ali**, C. A., & Akayuure, P. (2014). Mathematics as a Tool for Enhancing Competitiveness and Employability of Vocational Training Institutions in Ghana. *International Journal of Entrepreneurial Development, Education and Science Research Inventions*, 2(1), 190-200.
4. **Ali**, C. A., & Oduro, F. T. (2014). Bayesian Models of HIV/AIDS Sentinel Surveillance Transmission in the Upper East Region of Ghana. *International Journal of Advanced Studies in Engineering and Scientific Inventions*. 2(1), 99-107.
3. **Ali**, C. A. (2014). Applications of Principal Component Analysis in Monitoring Educational Prospects in Mathematics in the Upper East Region of Ghana. *Education and Science Journal of Policy Review and Curriculum Development*, 4(1), 1-12.
2. **Ali**, C. A. (2013). Using Linear Difference Models to Predict the Dynamics of Gender and School Performance. *International Journal of Basic Education*, 3(1), 47-55.
1. **Ali**, C. A. (2013). Parallel and Differentiation Grading System in Basic Mathematics to Address the Socio-Economic and Cultural Barriers to Gender Parity Indexes in Northern Ghana. *Institute for Continuing Education and Inter-Disciplinary Research*, University for Development Studies, Tamale, 126-147.

## BOOKS AND BOOK CHAPTERS

17. **Ali**, C. A. & Padmore, E. A. (2023). *Teaching and Assessing Upper Primary Mathematics (Intermediate) (JBM351)*. Winneba: College of Distance and e-Learning (in-press)
16. **Ali**, C. A. & Asemani, E. (2023). *Teaching and Assessing Junior High School Mathematics (Advanced) (JBM361)*. Winneba: College of Distance and e-Learning (in-press)
15. **Ali**, C. A. & Wiredu-Minta, M. (2021). *Teaching and Assessing Junior High School Mathematics (Introductory) (JBM241)*. Winneba: College of Distance and e-Learning.
14. **Ali**, C. A. & Asemani, E. (2021). *Learning, Teaching and Applying Further Algebra (PBMa231)*. Winneba: College of Distance and e-Learning (in press).

13. **Ali**, C. A., Amihere, A. K., & Adzifome, N. S. (2021). PBMa121: Learning, Teaching and Applying Geometry and Handling Data (Units 5-6). Winneba: College of Distance and e-Learning.
12. **Ali**, C. A., & Adu Poku, F. (2021). ECM245: Learning Teaching and Assessing Numeracy for Early Grade (Units 1-3). Winneba: College of Distance and e-Learning.
11. **Ali**, C. A., & Adu Poku, F. (2020). PBMa111: Learning, Teaching and Applying Number and Algebra (Units 1-3). Winneba: College of Distance and e-Learning.
10. Amihere, A. K., & **Ali**, C. A. (2019). Teaching and Learning Algebra. Cape Coast: Akonta Publications.
9. **Ali**, C. A. (2019). Didactical conceptual structures in extending the triad to the tetrahedron exemplified in the teaching and learning of equations of the circle. *University of Cape Coast Institutional Repository*, <http://hdl.handle.net/123456789/6250>.
8. **Ali**, C. A. (2016). *Bayesian Analysis of the Incidence of HIV/AIDS in Upper East Region*, LAP Lambert Academic Publishing, [https://books.google.com.gh/books/about/1\\_Bayesian\\_Analysis\\_of\\_the\\_Incidence\\_of.html?id=XXvgnAAACAAJ&redir\\_esc=y](https://books.google.com.gh/books/about/1_Bayesian_Analysis_of_the_Incidence_of.html?id=XXvgnAAACAAJ&redir_esc=y)
7. **Ali**, C. A. (2009). Bayesian Analysis of the Incidence of HIV/AIDS in Upper East Region. *Kwame Nkrumah University of Science and Technology Repository*, 5503. pdf.
6. **Ali**, C. A. (2019). PMTD 351---Methods of Teaching Senior High School Mathematics II (Units 1-6). Winneba: College of Distance and e-Learning.
5. **Ali**, C.A. (2018): *ECD 243--Mathematics in the Early Years*: Winneba: College of Distance and E-Learning.
4. **Ali**, C. A., & Oduro, F. T. (2016). Bayesian Analysis of The Incidence of HIV/AIDS in Upper East Region. Lap Lambert Academic Publishing, Saarbrucken, Germany.
3. **Ali**, C. A., Adzifome, N. S., Amihere, A. K., & Ngman-Wara, E. I. D. (2014). *Introduction to Educational Research Methods, Assessment, and Statistics for Diploma and Degree Students*. Accra: Akwa Impression.
2. Adzifome, N. S., **Ali**, C. A., & Amihere, A. K. (2014). *Matrices, Probability and Introductory Calculus for Basic School Teachers*. Unpublished Book in circulation.
1. Amihere, A. K., Adjifome, N. S., & **Ali**, C. A. (2014). *Quadratics, Geometry, and Trigonometry Basic School Teachers*. Unpublished Book in circulation.

#### CONFERENCE PAPERS

36. **Ali**, C. A. & Asemani, E. (2024). Advancing STEM Education for the Disability in Ghana. In Advancing Innovation for Improved Educational Policy and Practice: Prospects and Challenges, School of Education and Leadership, International Biennial Conference, Cedi Conference Centre, University of Ghana, 4<sup>th</sup> & 5<sup>th</sup> April 2024
36. **Ali**, C. A. (2024). Student Teachers' Selective Amnesia of Mathematics Topics. In Mark Bloom, Chris Gordon, Ashley Titus, Sarah Bush, Pamela Fraser,

- International Consortium for Research in Science and Mathematics (ICRSME).  
2024 Virtual Conference, Saturday 6<sup>th</sup> April, 2024
35. **Ali**, C. A. (2023). Pupils' Indigenous Knowledge in the Reconstruction of a 4IR Triangle. *International Conference on Innovations in Mathematics Education (ICME)*, April 11-12, 2023 in Cape Town, South Africa
  34. **Ali**, C. A. & Asemani, E. (2024). Politics amidst Global Uncertainties: Shaping a Future for the Visual and the Hearing Student-Teacher to Teach Geometry. In Botwe et al., eds. *Politics amidst Global Uncertainties: Option for Building a Resilient Society*, North Assembly Hall, UEW, Winneba, 31/01/2024
  33. Mohammed Mutawakil Issahaku & **Ali**, C. A. (2023). Predictive Forces of Gender in Meeting the SDG Goals: The Mathematics Factor, *Proceedings of 2023 Annual Institute for Interdisciplinary Research (IIR) Conference, University for Development Studies*, Tamale, September 13-14, 2023
  32. Alorki Issaka & **Ali**, C. A. (2023). Female Students Attitudes Towards Mathematics; The Ghanaian Northern Perspective, *Proceedings of 2023 Annual Institute for Interdisciplinary Research (IIR) Conference, University for Development Studies*, Tamale, September 13-14, 2023
  31. **Ali**, C. A., Adzifome, N. S., & Asemani, E. (2023). Female Trainee Teachers and Inequality in Mathematics. *31<sup>st</sup> Southern African Association for Research in Mathematics, Science and Technology Education (SAARMSTE) Conference 2023*, University of the Free State, Tuesday 17<sup>th</sup> to Thursday 19<sup>th</sup> January, 2023
  30. **Ali**, C. A., & Davis, E. K. (2022). Applications of Basketry to Geometric Tessellations. *16<sup>th</sup> International Conference of The Mathematics Education for the Future Project*, King's College, Cambridge University, UK, Aug 8-13, 2022 (**paper accepted**).
  30. **Ali**, C. A. (2022). **Participant, International Resilience Revolution Conference - 30-31 March 2022 (Registrant)**
  29. Yen, E., **Ali**, C. A., & Adzifome, N. S. (2022). Public junior high school familiarity and competency levels in integrating ICT in mathematics instruction. *6<sup>th</sup> International Multidisciplinary Conference for Postgraduate Students*, North Campus, University of Education, Winneba.
  28. **Ali**, C. A., & Acquah, S. (2022). Effects of Indigenous Languages on Counting and Place Value. *30<sup>th</sup> Conference of the Southern African Association for Research in Mathematics, Science and Technology Education*, a Consortium of Western Cape Institutions, January 18 – 20, 2022.
  27. Akayuure, P., **Ali**, C. A., & Hayford, S. K. (2021). The Visually Impaired Student-Teachers' Didactic Notions of the Triangle. *HKERA-APERA International Conference 2021*, Hong Kong, Hong Kong, December 9-11, 2021.
  26. **Ali**, C. A., & Akayuure, P. (2021). Didactics has Evolved to Digital Age Didactics. *2nd edition of the International Conference on Teaching, Assessment, and Learning in the Digital Age*, Durban, South Africa, 2 – 3 December 2021.



25. **Ali**, C. A., & Akayuure, P. (2021). Indigenization of the Concreteness Fading Principle in Teaching Multiplication of 1-Digit Numbers by 2-Digit Numbers. *Proceedings of the 26th Annual National Congress of the Association for Mathematics Education of South Africa, Volume 1*, 52-62, 14th-16th July 2021, Durban, KwaZulu-Natal (Editors: Zingiswa Jojo & Maryna Du Plooy), Muckleneuk Campus, University of South Africa. Johannesburg: AMESA.
24. **Ali**, C. A., & Davis, E. K. (2020). Consolidating Didactic Pedagogies in Mathematics Education in the Era of Covi19 Pandemic in Teaching Experiences, Pedagogy and Practice in Ghana. *A Conference paper presented at digiTAL2020--Digital 2020 Conference: a virtual international conference on teaching, assessment, and learning in the digital age*, South Africa (virtual online).
23. **Ali**, C. A. (2020). Preservice Teachers' Experiences in Experiential Teaching and Learning of Place Value in the University Mathematics. *A Conference paper presented at Stellenbosch University Experiential Education Conference 2020*, South Africa (virtual online).
22. Marshall, J., & **Ali**, C. A. (2019). Exploring the Expository Techniques of Teaching and Learning Mathematics in Ghana: The Case of Shama District. *A Conference paper at the 4<sup>th</sup> International Multi-Disciplinary Conference for Graduate Students*, Central Campus, University of Education, Winneba.
21. **Ali**, C. A., Acquah, S., & Esia-Donkoh, K. (2019). Comparative Study of SAM and ADDIE Instructional Models in Simulating Teaching and Learning of STEM Subjects in Ghana. *A Symposium presented at the World Education Research Association (WERA2019)*, Tokyo, Japan from 3 August to 5 August 2019.
20. **Ali**, C. A., Davis, E. K., & Agyei, D. D. (2018). Effectiveness of Semiosis for Solving the Quadratic Equation. A Paper presented at the *26<sup>th</sup> Southern African Association for Research in Mathematics, Science and Technology Education (SAARMSTE2018)*, University of Botswana, Gaborone from 16 to 19 January 2018.
19. **Ali**, C. A., Davis, E. K., & Agyei, D. D. (2018). Transition from Instrumental Genesis to Anthropological Theory of Didactics in the Teaching and Learning of Mathematics in Basic Schools. A paper presented at *British Congress of Mathematics Education (BCME9)*, University of Warwick, United Kingdom.
18. Davis, E. K., Amuah, E., Aboagye, G. K., Awoniyi, F. C., Adu-Gyamfi, K., & **Ali**, C. A. (2018). Research of Didactics–Learning and Teaching: Global South Perspectives. *A Symposium presented at the World Education Research Association (WERA2018)*, Cape Town, South Africa from 3 August to 5 August 2018.
17. **Ali**, C. A., & Davis, E. K. (2018). The Didactical Phenomenology in Learning the Circle Equation: The Case of the Ghanaian High School Student. *A Symposium entitled "Research of Didactics – Learning and Teaching: Global South Perspectives Paper 5" was presented at the World Education Research Association (WERA2018)*, Cape Town, South Africa from 3 August to 5 August 2018.

16. **Ali**, C. A., Davis, E. K., & Agyei, D. D. (2017). Didactical Conceptual Structures in Transitions of the Three Pillars of Constructivism in Conic Sections. *International Society for the Study of Behavioural Development 12<sup>th</sup> International Biennial African Regional Workshop*, North Campus, University of Education, Winneba.
15. **Ali**, C. A., & Anderson, H. K. (2017). Pre-Service Teachers' Pedagogical Content Knowledge in Transferring from Basic Musical Notations to Basic Fractions. *International Group for the Psychology of Mathematics Education (IGPME)*, Institute of Education, University of Cape Coast, Cape Coast, Ghana
14. **Ali**, C. A., Davis, E. K., & Agyei, D. D. (2017). Didactical Conceptual Structures in Teaching and Learning Competency in Conic Sections. *1<sup>st</sup> International Conference on Competency-Based Training and Research (ICCBTR)*, College of Technology Education, University of Education, Winneba, Ghana
13. **Ali**, C. A., Davis, E. K., & Agyei, D. D. (2017). 4T Models of Anthropological Moments of Didactical Praxeologies in the Parabola with Digital Technologies. *Innovative and Creative Education Teaching International Conference (ICETIC 2017)*, Faculty of Education, University of Extremadura, Badajoz, Spain (Electronic Virtual Presentation)
12. **Ali**, C. A., Agyei, D. D., & Wilmot, E. M. (2016). Assistive Technologies in Mathematics Education for the Visually Impaired: Tool for Job Creation in Ghana. *2016 Annual Interdisciplinary Conference, Institute for Interdisciplinary Research and Consultancy Services (IIRaCS)*, University for Development Studies, Navrongo Campus, pp. 63-64.
11. **Ali**, C. A., & Davis, E. K. (2016). Harnessing Indigenous Basketry Resources for National Development: A Long Term Prospects for Mathematics Education in Ghana. *2016 Northern Harmattan School, Institute for Continuing Education and Interdisciplinary Research (ICEIR)*, University for Development Studies (UDS) and Partners.
10. **Ali**, C. A., Adzifome, N. S., & Addison, A. K. (2015). Contemporary Issues and Challenges in Basic Education in Ghana; Principal Component Extractions of SWOT Matrix for National Development, *African Regional Research Conference on Sustainable Development Strategies*, Kenyatta University, Nairobi, Kenya, pp.109-110.
9. Akayuure, P., & **Ali**, C. A. (2015). Incorporating the Indigenous *Bukre Game* into the Teaching and Learning of Probability in Ghana. *Research Network for West and Central Africa (ERNWACA)*, Windy Bay Hotel, Winneba.
8. **Ali**, C. A., & Akayuure, P. (2015). Infusing Competencies and Skills of Vocational Instructors: Innovations to Boost Science and Technology for National Development. *2015 Annual Interdisciplinary Conference*, University for Development Studies, Institute for Continuing Education and Interdisciplinary, Tamale.

7. **Ali, C. A. & Zuure, D. N. (2015).** The Dietary Right of Children And its Effect on Pupils' Performance in Mathematics in Rural Ghana; The Voices of Stakeholders in Naaga Traditional Area. *African Regional Research Conference on Sustainable Development*, University of Ghana, Legon
6. **Ali, C. A., & Ngman-Wara, E. I. D. (2014).** Monitoring the Motives of Student-Teachers Pursuing Further Studies in Sandwich Programmes in Basic Education. *7<sup>th</sup> International Applied Research Conference*, Koforidua Polytechnic, Koforidua.
5. **Ali, C. A., & Akayuure, P. (2014).** Mathematics as a Tool for Enhancing Competitiveness and Employability of Vocational Training Institutions in Ghana. *7<sup>th</sup> International Applied Research Conference*, Koforidua Polytechnic, Koforidua.
4. **Ali, C. A. (2014).** Parallel and Differentiation Grading System in Basic Mathematics to Address the Socio-Economic and Cultural Barriers to Gender Parity Indexes in Northern Ghana. *4<sup>th</sup> Harmattan School*, University for Development Studies, Tamale.
3. **Ali, C. A., & Oduro, F. T. (2013).** Bayesian Models of HIV/AIDS Sentinel Surveillance Transmission in Upper East Region of Ghana. *African Regional Research Conference on Sustainable Development*, Federal University of Otuoke, Nigeria.
2. **Ali, C. A. (2013).** Applications of Principal Component Analysis in Monitoring the Prospects of Senior High School Leavers in Mathematics-Related Careers in the Upper East Region of Ghana. *African Regional Research Conference on Sustainable Development*, University of Ghana, Legon.
1. **Ali, C. A., & Oduro, F. T. (2012).** Markov Chain Models of the Incidence of HIV/AIDS Data in the Upper East Region of Ghana. *5<sup>th</sup> International Applied Research Conference*, Koforidua Polytechnic, Koforidua.

## SEMINARS AND WORKSHOPS

- 65. May 2-3, 2024:** Knowledge Sharing Conference on Supported Teaching in School (STS) in Early Grade Teacher Training, North Assembly Hall, UEW, Winneba
- 64. April 23-25, 2024:** Webinars on Proof Assistants, the Future of Collaboration, and Machine Learning Approaches to Mathematical Discovery. In *AI to Assist Mathematical Reasoning*. Adam Chlipala, and Timothy Gowers; Lior Horesh and Ravi Vakil, and Albert Jiang and Christian Szegedy, National Academies, 1 p.m. - 2 p.m. ET or 5-6 pm UTC. The National Academies of Sciences, Engineering, and Medicine
- 63. December 19, 2023:** Right to Play, SELLL, and FABSE Collaborative Forum on Research Dissemination and Manual for Basic Teachers
- 62. November 10, 2023:** *Addressing Contemporary Challenges Facing Higher Education Delivery: The Role of Deans, Directors, Deputy Registrars and Heads of Departments*, Manna Heights Hotel, Mankessim (Prof. Stephen Jobson Mitcual, Prof. Victor Antwi, Dr. Theophilus Senyo Akorlie, Mrs. Wilhemina Tete-Mensah, Dr. Augustine Monney, Mr. Raymond Boison)

- 61. October 6-7, 2023:** *Stakeholder Consultation on Reviewing the NTS Standards and the NTECF Framework*, Akromah Plaza, Takoradi (Hon. Dr. Osei Adutwum, Prof. Eric Ananga; Mr. Lawrence Sarpong, Mr. Akwasi)
- 60. September 18-30, 2023:** CODEL Centre-Based Training on Supported Teaching in Schools in Ashanti Region (Dr. Clement Ali (Team Lead), Mr. John Akuffo, Mr. Seyram)
- 59. September 13-15, 2023:** CODEL Trainer of Trainers Workshop on Supported Teaching in Schools, UEW, Central Campus (Dr. Beatrice Torto, Mr. Kweku Esia-Donkoh, Mr. Justice Adzirako, Mr. Lawrence Quarshie)
- 58. August 5, 2023:** UEW FES, Department of Special Education Seminar on Creating an Inclusive and Supportive Environment for Students with Special Needs (Prof. Mawutor Avoke, Prof. Samuel K. Hayford, Prof Dandy G. Sampson, Dr. Adam Awini)
- 57. August 3, 2023:** Centa Seminar on Global Teachers' Meet' (Ramya Kankataraman, Sarah Tahwar, Smithi Sharma, Shruthi CENTA)
- 56. August 2, 2023:** IERIS Maiden Education Seminar, JAM Conference Centre (Prof. Avea Nsoh, Prof. K. T. Oduro, Hon. Dr. Clement Appak, Hon. Rev. Ntim)
- 55. July 24, 2023:** PBL Teacher Academy Module 1: Culture-Building Challenge, PBL Teacher Academy (Sara Sega)
- 54. July 21, 2023:** Fostering Human Progress through Open Research: Understanding Open Access Publishing, Taylor and Francis, and the Association of African Universities (Dr Madhurima Kahali & Prof Muliaro Wafula) Madhurima.Kahali@tandfindia.com (For Journals Publishing)  
<https://authorservices.taylorandfrancis.com/choose-open/publishing-open-access/requesting-an-APC-waiver/eligible-countries/>  
<https://think.taylorandfrancis.com/african-studies/>
- 53. July 11-13, 2023:** *Data collection and analysis in mixed research methods*, The 21st Annual (1st Hybrid) SAARMSTE Research School for Mathematics, Science and Technology Education, University of Kwazulu Natal, South Africa (Prof. Fred Lubben, Elizabeth Mavhunga, Portia Kavai)
- 52. May 26, 2023:** Seminar on Mathematics Education, Analogy in mathematics: from epistemology to the classroom and back, Nicolò Cangiotti, Francesco Nappo, Politecnico di Milano, Italy
- 51. December 16, 2022:** Lecture on *Embodied design for spatial geometry learning*, Alik Palatnikand and Barbara Baranska (The Hebrew University of Jerusalem, The Seymour Fox School of Education, Israel)
50. November 24, 2023: UEW, CODEL Seminar for Study Centre Coordinators and Administrator, Gloriaka, Winneba (Prof. Frimpong Kaakyire Dugu, Mr. Lawrence Quarshie)
49. November 7-10, 2022: Africa Universities' Day Celebrations on the theme, "*Open Science-Bringing Equity to Research and Publishing*", Naomi Darko, Prof. Ishaya Dauda
- 48. May 4, 2022:** Transforming Education through Concept-Based Learning with Rachel French, Rachel French, Director, Professional Learning International, [rachel\\_french@prolearnint.com](mailto:rachel_french@prolearnint.com), 0064-20-41535090 - Work

- 48. March 31, 2022:** The ins and outs of preprint servers: understanding them to enhance your career, Michele Avisar-Whiting & Gareth Dyke, Webinar ID: 850 1060 0822, The Research Square Company.
47. March 20 to 23, 2022: CODeL Capacity Building Workshop for Lecturers and Tutors, Gloriaka, Winneba
- 46. March 16, 2022:** Supporting Well-being in the Workplace and Schools, Professor Rebecca Ang and Mr Willie Soh, The Educational Research Association of Singapore (ERAS) and NTU National Institute of Education Alumni Association (NIEAA) on Wednesday, from 9 am to 4 pm (Singapore Time), <http://eras.org.sg/>
46. February 24, 2022: Get Good at Statistics without Becoming a Statistician, Karen Grace-Martin & Jeremiah Cotman, FutureLearn
45. February 24, 2022: CENTA Webinar Series for Teachers (Becoming a multi-faceted professional), Becoming a multi-faceted professional-Exploring various careers paths along with teaching, Dr. Arshi Gouhar, MyCenta
44. February 24, 2022: Live-Virtual Course: From Innovative Ideas to Scholarly Books in Science & Technology, Dr Gagandeep Singh, Taylor & Francis Group (virtual)
43. February 18, 2022: *CPPI Seminar: Ethics in Mathematics and Society: Problems and Perspectives*, Paul Ernest and Alexander Moore (virtual).
42. February 3-4, 2022: Digital Learning Africa Summit 2022: Focusing on the key challenges of the African Education Sector (Online)
- 41. February 2, 2022:** Funder for NGOs: How to Prepare Yourself for Writing New Proposals in 2022, Webinar ID 860 8460 6067
41. January 22, 2022: Professional Learning International Workshop on The Power of Questioning with Rachel French (Zoom).
40. January 21, 2022: ITECPD Workshop for Supervisors and Lecturers at Gloriaka Hotel, Winneba
39. January 15, 2022: CODeL Workshop for Level 100 students of Winneba Centre, North Campus, Winneba
38. October 5-6, 2021: IERIS Retreat Grant and Proposal Workshop for Staff at Anomabo Beach Hotel, Anomabo
37. August 19, 2021: Directorate of Research, Innovation and Development (DRID) Conference Proposal for Grants and Funding Workshop, Jophus Anamoah-Mensah Conference Centre, Winneba
36. July 16, 2021: *Excellence in Peer Review*. Olisha Taneja (marketing administrator) and Diana Marshall (head of the reviewer program, speaker), how to critically assess an article and write a report, Taylor and Francis (online).
35. June 7-9, 2021: *ITECPD workshop for UEW/CoE Subject Leads and Continuous Professional Development Coordinators on Professional Development Manuals for Year 2 Semester 2 Courses*. Dr. Kofi Adu Boahen (ITECPD Coordinator), Dr. Charles Annobil (Head, ITECPD), Gloariaka Hotel, Winneba.

34. May 15-17, 2021: *Residential Departmental Workshop for Staff of the Departments of Basic Education, Early Childhood Care & Education, and Special Education on Second Semester B.ED Courses*. Prof. Mrs. Sakina Acquah (Head, Basic Education), Prof Samuel K. Hayford (Dean, Educational Studies), Dr. Samuel Oppong Frimpong (STS Coordinator) and Dr. Yayra Dzakadzie (New Assessment Policy), Volta Hotel, Akosombo
33. April 25, 2021: *Workshop on Supported Teaching in Schools (STS) for IDeL New B.Ed Students of Winneba Centre*, Clement Ayarebilla Ali, Mr. Joop Essel, and Madam Nana Amusah, North Campus, Winneba.
32. March 3-6, 2021: *IDeL Workshop on Second Semester Courses and UEW LMS for Selected Distance Education Tutors*, Prof. Francis Kweku Owusu-Mensah, Mr. Esia-Donkoh and co., Kumasi, Wadoma Royale Hotel.
31. January 4-8, 2021: *ITECPD and Departments of Basic and Early Childhood Subject-Based and Professional Development Session Workshop on the 4-Year B.Ed Curriculum for Basic and Early Childhood Education*, Prof. S. K. Hayford, Prof. Mr. Sakina Acquah, Prof. George G. Dandy and Dr. Kofi Adu-Boahen, Akosombo, Volta Hotel
30. October 19-20, 2020: Virtual conference organized by EducataGhana 2020 on “Basic Education, Higher Education, Technical Vocational Education and Training (TVET), and Entrepreneurship” at Mövenpick Ambassador Hotel, Accra.
29. October 7-9, 2020: *Right to Play, Play-Based Learning and the Core Competencies*, Mr. Lawrence Offei, Ada, Aqua Safari.
28. November 10-13, 2019: Participated in a “CDP for IDEAL tutors: Supported Teaching in Schools (STS)” at Wadoma Royale Hotel, Kumasi (Prof. Samuel Kwesi Hayford, Mr. Kweku Esia-Donkoh).
27. October, 19-20, 2018: *International Conference for Counsellors and Associates (ICCA)*, Mrs. Ama Obeng Berkyaw, Accra, Golden Tulip Hotel.
26. February 7, 2018: *Workshop on Internationalization at UEW*, Prof Ame De-Graft Aikins and Prof Tiece Ruffin, Winneba, Jophus Anamoah-Mensah Conference Centre.
25. October 30—November 2, 2017: *International Society for the Study of Behavioural Development 12<sup>th</sup> International Biennial African Regional Workshop*, Prof Anne Petersen, Prof Ama De-Graft Aikins and co., Winneba, Jophus Anamoah-Mensah Conference Centre.
24. October 16-20, 2017: *International Group for the Psychology of Mathematics Education (IGPME) Workshop*, Prof Markku Hannula, Prof Erika T. Löfström and co., Cape Coast, Grace Adaboe Hall, Institute of Education.
23. September 2, 2017: *Authorpreneurship Conference 2017*, Mr. Daniel Annan, Miss Emefa Mekpor and co., Accra, British Council Hall.

22. August 25-26, 2017: *15<sup>th</sup> Ghana International Book Fair*, Mr. Brian O'Donnell, Mr. Ernest Oppong and co., Accra: Accra International Conference Centre.
21. November 29, 2016: *Elsevier's Author Seminar on How to Get Published in a Scholarly Journal, to be a Great Reviewer, to Detect Journal Metrics, Research and Publish your Findings Ethically*, Dr. Charon Duermeijer and Madam Ingrid van de Stad, Accra, National Council for Tertiary Education (NCTE).
20. November 16, 2016: Participated in "Gender Mainstreaming Mentoring Workshop for 2016" at Conference Room, Pecku Building, North Campus, University of Education, Winneba.
19. June 20, 2016: *Educational Research Network for West and Central Africa (ERNWACA) Education Research Grants Program Training at Conference Room*, Rev. Dr. Kwesi Nkum Wilson, Dr. William Boateng and co., Peku Block, North Campus, UEW, Winneba
18. December 1-3, 2015: *Research Methods: Approaches and Skills*, Mr. George Wamwea and Dr. Favour Anam, Kenyatta University, Nairobi, Kenya.
17. November 18, 2015: Attended a "Public Lecture of the African Institute for Mathematical Sciences at the School of Medical Sciences Auditorium on Training the Next Generation of Leaders, Mathematical Modeling of Agriculture, Education, and Health for National Development" at the Institute of Education, University of Cape Coast.
16. July 31, 2015: *Briefing Session for the Mentoring Programme for Staff of UEW*, Gender Unit Directorate, Pecku Building Conference Room, Winneba.
15. March 27, 2015: *Report of the African Virtual University Teacher Education Curriculum Mapping and Review Workshop at University of Education, Winneba*, AVU Officials, UEW, North Campus, Winneba.
14. August 15, 2014: *2014 Congregation Lecture on the theme 'The Role of Education in Developing Society'*, H.E. General Abudulsalami Abubakar, Winneba, Jophus Anamoah-Mensah Conference Centre.
13. June 17, 2013: Participated in a "Training in Online Courseware Development and Structural Equation Modelling (SEM)-Partial Least Squares (PLS)" at Science Faculty Block, University of Education, Winneba.
12. March 8, 2013: *Dissemination Seminar on UEW-PHEA ETI Outcomes*, Dr. Issifu Yidana and Mr. J.B. Williams, Ayitey Auditorium, University of Education, Winneba
11. November 14, 2012: *Retreat on Supervision of Action Research Project Work for Lecturers of Department of Basic Education*, Mrs. Mary Ackumey and Dr. Hans Anderson, Windy Lodge, Winneba.
10. March 15, 2012: *Institute for Educational Development and Extension, Centre For Distance Education Tutors' Capacity Building Workshop*, Prof. Kwame Asante, Prof. Sally Essuman and co., Ayitey Auditorium, University of Education, Winneba.

9. December 15, 2011: *Colloquium on Quality Education in Ghana*, Rev. Prof. Anthony Afful-Broni and Prof. George Oduro, Ayitey Auditorium, University of Education, Winneba.
8. March 8-11, 2011: *Preparing Proposals for Donor Support and Publishing in Scholarly Journals*, Prof. A. A. Alemna and Ibrahim K. Antwi, Auditorium, Bolgatanga Polytechnic, Ghana
7. August 16, 2010: *36<sup>th</sup> Mathematical Association of Ghana Conference*, Prof. J.B. Ofofu; Prof. N.K. Kofinti and Co., Methodist University, Accra.
6. September 20 to October 10, 2010: *Training Workshops and Seminars for District Level Enumerators for Population and Housing Census 2010*, Ghana Statistical Service and Mr. Festus Addai, Bawku Technical Institute, Bawku.
5. July 20 to July 30, 2010: *Training of Trainers Workshop and Seminars for District Level Enumerators for Population and Housing Census 2010*, Ghana Statistical Service and Dr. Grace Bediako, University of Cape Coast, Cape Coast, Republic of Ghana
4. November 18-22, 2009: Attended “Workshop for ICT Tutors of Colleges of Education in Ghana” at St. Louis College of Education, Kumasi.
3. July 10-15, 2007: Attended a “Workshop for Review of Mathematics Course Modules for UTDBE students in Colleges of Education in Ghana” at Wesley College of Education, Kumasi.
2. February 19-26, 2005: Attended a “Workshop for District Level Mentors of Untrained Teacher Diploma in Basic Education Programme” at N.J.A. College of Education, Wa.
1. October 24-28, 2004: Capacity Building Workshop on Strategic Planning and Research Methods for Tutors of Teacher Training Colleges in Ghana at St. Louis Training College, Kumasi.

### **AWARDS AND HONOURS**

Fellow, International Institute for Policy Review and Development Strategies (IIPRDS), Nigeria, December 2015 to date

### **GRANTS AND FELLOWSHIPS**

SAARMSTE Early Career Award: “Effectiveness of Semiosis for Solving the Quadratic Equation” (ZAR2,000.00), 2018.

Plan Ghana Consultancy Grant: “Numeracy in Cultural Context” (Ghc10,000), 2020 (still awaiting).



The Award of BCF Curriculum Investigation: An Investigation into Ability of Female Teacher Trainees of the New Four-Year Bachelor of Education Degree in Upper Primary to Mitigate the Impact of Racism and Social Exclusion in Ghana (£5,000), 2021 (Still Pending)

Centre for the Study of Resilience, Department of Educational Psychology, University of Pretoria: A Concept Paper on Transdisciplinary Solutions to the Four Pillars of the New Bachelor of Education Curriculum (\$5,000.00), 2021 (Awaiting)

## **RESEARCH INTERESTS AND DOMAINS**

### **a). Research areas**

1. Didactical Phenomenology
2. Indigenization and Indigenous Mathematics Resources
3. Instructional Models for Simulating STEM Teaching and Learning
4. schematics Didactics
5. didactics and conceptual structures in mathematics
6. Arithmetic, numbers, and operations of numbers
7. Geometry, conic sections and circles
8. Modelling, Probability, Bayesian analysis, and Markov chains
9. Problem-solving, representations, modelling, and difference equations
10. reaction preparation and classroom assessment strategies
11. classroom interaction, discourse, conceptual change, and development
12. Language, differentiation, and socio-cultural issues in mathematics education
13. Tools, semiosis, semiology, semiotics and education
14. Affect, emotions, attitudes, equity, and gender issues in mathematics education

### **b). Research interest levels**

1. Preschool and kindergarten school children and teachers
2. Basic school pupils, junior high school and senior high students and teachers
3. Colleges of Education preservice teachers and tutors, vocational education and teaching, adult education, and out-of-school mathematics

### **c). Research Methods**

1. Qualitative and interpretative methods
2. theoretical methods
3. Mixed philosophy
4. Theoretical, philosophical, and meta-analysis

### **PERSONALITY TRAITS, COMPETENCE AND HOBBIES**

Team player, hard-working, can work with little or no supervision, can work under pressure, can learn new things; by browsing on social media (Facebook, WhatsApp, and X), computer games, and software

### **REFEREES**

1. Prof. Hinney Kusi, Dean, School of Education and Lifelong Learning, University of Education, Winneba.
2. Prof. Mrs. Sakina Acquah, Head of Department, Department of Basic Education, School of Education and Lifelong Learning, University of Education, Winneba.
3. Prof. Ernest Kofi Davis, Provost, College of Education, University of Cape Coast, Cape Coast, Ghana
4. Dr. Francis T. Oduro, Senior Lecturer, Department of Mathematics, Kwame University of Science and Technology, Kumasi, Ghana.