KENNETH Adu-Gyamfi, Senior Lecturer

Senior Lecturer · Science Education
University of Cape Coast

ORCID 0000-0002-1959-3702 · Google Scholar scholar.google.com/citations?user=14xw0RgAAAAJ&hl=en · Profile scholar.ucc.edu.gh/staff/d0f0961f-0a22-42e1-89fe-39caeb052505

PROFILE

Kenneth Adu-Gyamfi is a SENIOR LECTURER in the Department of Science Education, University of Cape Coast, Ghana. Kenneth researched Science (Chemistry) Education, Teacher Education, Instructional Design, and Gender and Equity.

In the area of instructional design, Kenneth is currently collaborating with his postgraduate students to enhance the teaching and learning of organic chemistry and to improve students' conceptual understanding of stoichiometry through design-based research. approaches.

RESEARCH

Interests	Science Education · Chemistry Education · Ethnographic Studies · Mixed methods · Teacher education · curriculum and teaching · conceptual difficulties · gender and equity
Areas	Education · Physical and Theoretical Chemistry · Developmental and Educational Psychology · Social Psychology · Environmental Chemistry · Gender Studies

RESEARCH SUMMARY

42	494	14	17	3.34	54%
Publications	Citations	h-index	i10-index	Field-weighted impact	World top 10%

Counted from the 42 publications listed below, 2011–2026. Field-weighted impact is the mean over the 24 works scored for it; 1.00 is the world average for works of the same field, type and year. 13 of the 24 papers scored for it are among the world's most cited tenth for their field, type and year.

POSITIONS

Senior Lecturer 2018–present
Department of Science Education, University of Cape Coast, Cape Coast, Ghana

EDUCATION AND QUALIFICATIONS

Ph.D/Dr. 2018–present
Science Education, University of Cape Coast, Cape Coast, Ghana

Student 2012–2016
Department of Science Education, University of Cape Coast, Cape Coast, Ghana

PUBLICATIONS

Journal articles 38

1. Joyce Delali Mawutor, **Kenneth Adu-Gyamfi** (2026). FACTORS ASSOCIATED WITH FEMALE STUDENTS' CONCEPTUAL UNDERSTANDING OF ATOMIC ORBITALS AND HYBRIDISATION. *Journal of Baltic Science Education*. https://doi.org/10.33225/jbse/26.25.151
2. **Kenneth Adu-Gyamfi** (2026). Inquiry-Based Learning Through Contextual Scientific Activities on Students' Conceptual Understanding of Elements, Compounds, and Mixtures. *JIPI (Jurnal IPA & Pembelajaran IPA)*. https://publications.usk.ac.id/index.php/jipi/article/view/2218
3. **Kenneth Adu-Gyamfi**, Isaiah Atewini Asaki, Joyce Delali Mawutor (2026). WHAT CAN WE LEARN FROM

THE 2010 GHANAIAN SENIOR HIGH SCHOOL CHEMISTRY CURRICULUM? AN EVALUATION USING THE CIPP MODEL. *European Journal of Education Studies*. https://doi.org/10.46827/ejes.v13i4.6596

4. **Kenneth Adu-Gyamfi**, B Anim-Eduful, JD Mawutor (2025). An Interplay of Gender, School Type, and Grade Level on Senior High School Students' Interest in Science. *American Journal of Science Education Research*. https://scholar.google.com/scholar?cluster=17213849817492758486&hl=en&oi=scholarr
5. Isaiah Atewini Asaki, **Kenneth Adu-Gyamfi** (2025). Teaching organic chemistry at the high school: Which factor predicts most of the difficulties? *Educational Point*. https://doi.org/10.71176/edup/16251
6. Kwaku Darko Amponsah, **Kenneth Adu-Gyamfi**, Florence Christianah Awoniyi, Priscilla Commey-Mintah (2024). Navigating academic performance: Unravelling the relationship between emotional intelligence, learning styles, and science and technology self-efficacy among preservice science teachers. *Heliyon*. https://doi.org/10.1016/j.heliyon.2024.e29474
7. Nathan Ohene Gyang, **Kenneth Adu-Gyamfi** (2024). TEACHING ORGANIC CHEMISTRY TO UPPER-SECONDARY STUDENTS HASN'T BEEN EASY: A CONVERSATION WITH TEACHERS AND STUDENTS ON BARRIERS. *GAMTAMOKSLINIS UGDYMAS / NATURAL SCIENCE EDUCATION*. https://doi.org/10.48127/gu-nse/24.21.18
8. **K Adu-Gyamfi**, B Anim-Eduful (2024). Teacher general pedagogy and subject matter knowledge for teaching qualitative analysis concepts to chemistry students. *International Education and Culture Studies*. https://scholar.google.com/scholar?cluster=17020570822752021047&hl=en&oi=scholarr
9. **Kenneth Adu-Gyamfi**, Isaiah Atewini Asaki, Abigail Fiona Dzidzinyo, Charles Deodat Otami (2024). Teaching and Learning Science as a Tool for Human Sustenance: The Non-Science Community's Expectations for School Science. *Education Sciences*. https://doi.org/10.3390/educsci14121379
10. **Kenneth Adu-Gyamfi**, Isaiah Atewini Asaki, Benjamin Anim-Eduful (2023). A Comparative Study of Groups of. *Teacher Training and Practice*. https://books.google.com/books?hl=en&lr=&id=meYEEgAAQBAJ&oi=fnd&pg=PA15&dq=info:vMP4Ft6HqHQJ:scholar.google.com&ots=0PeerstyY8&sig=5obE2uf1ED3M8VMLSWev0UpqQdc
11. Benjamin Anim-Eduful, **Kenneth Adu-Gyamfi** (2023). Nature of senior high school chemistry students' alternative conceptions in organic qualitative analysis. *Aquademia*. https://doi.org/10.29333/aquademia/13711
12. Benjamin Anim-Eduful, **Kenneth Adu-Gyamfi** (2022). Chemistry students' conceptual understanding of organic qualitative analysis. *Pedagogical Research*. https://doi.org/10.29333/pr/12307
13. Benjamin Anim-Eduful, **Kenneth Adu-Gyamfi** (2022). FACTORS INFLUENCING HIGH SCHOOL CHEMISTRY TEACHERS' AND STUDENTS' TEACHING AND LEARNING OF ORGANIC QUALITATIVE ANALYSIS: A QUALITATIVE STUDY. *European Journal of Education Studies*. https://doi.org/10.46827/ejes.v9i7.4378
14. **Kenneth Adu-Gyamfi**, Isaiah Atewini Asaki (2022). Factors contributing to teachers' conceptual difficulties in teaching high school organic chemistry. *European Journal of Science and Mathematics Education*. https://doi.org/10.30935/scimath/12433
15. **Kenneth Adu-Gyamfi**, Rejoice Elikem Vorsah (2022). GENDER VARIATIONS FAVOURING MALE STUDENTS IN PERCEIVED NATURE OF LEARNING MOLE CONCEPT. *Problems of Education in the 21st Century*. https://doi.org/10.33225/pec/22.80.09
16. **Kenneth Adu-Gyamfi**, Benjamin Anim-Eduful (2022). INTERACTION EFFECT OF GENDER, ACROSS SCHOOL-TYPE ON UPPER-SECONDARY STUDENTS' DEVELOPMENT OF EXPERIMENTAL REASONING ON ORGANIC QUALITATIVE ANALYSIS. *Journal of Baltic Science Education*. https://doi.org/10.33225/jbse/22.21.351
17. **Kenneth Adu-Gyamfi**, Isaiah Atewini Asaki (2022). Teachers' Conceptual Difficulties in Teaching Senior High School Organic Chemistry. *Contemporary Mathematics and Science Education*. https://doi.org/10.30935/conmaths/12382
18. Valentina Osei-Himah, **Kenneth Adu-Gyamfi** (2022). Teachers' Perspective of Effective Use of Teaching and Learning Materials in Basic School Integrated Science Lessons. *Asian Journal of University Education*. https://doi.org/10.24191/ajue.v18i1.17195

19. Benjamin Anim-Eduful, **Kenneth Adu-Gyamfi** (2021). Functional Groups Detection: Do Chemistry Teachers Demonstrate Conceptual Difficulties in Teaching? *Global Journal of Human-Social Science*. https://doi.org/10.34257/gjhssgvol21is7pg47

20. Rejoice Elikem Vorsah, **Kenneth Adu-Gyamfi** (2021). HIGH SCHOOL CHEMISTRY TEACHERS' PERSPECTIVES AND PRACTICES ON TEACHING MOLE CONCEPT. *Open Access Publishing Group - European Journal of Education Studies*. https://doi.org/10.46827/ejes.v8i2.3556

21. **Kenneth Adu-Gyamfi (PhD)**, Charles Deodat Otami (2020). In Search of an Effective Teacher: Ghana's Move towards Achieving Sustainable Education through Teacher Education Reforms. *International Journal of Higher Education*. https://doi.org/10.5430/ijhe.v9n4p216

22. Samuel Obed Amoah, Francis Britwum, **Kenneth Adu-Gyamfi**, Francis Nyamekye, Palmas Anyagre, Paul Dela Ahiatrogah (2020). Influence of Perceptions and Preparedness of Senior High School Teachers based on their Qualifications towards Professional Teacher Licensing in Ghana. *International Journal of Educational Technology and Learning*. https://doi.org/10.20448/2003.82.83.90

23. **Kenneth Adu-Gyamfi**, Joseph Ghartey Ampiah, Douglas Darko Agyei (2020). Participatory Teaching and Learning Approach: A Framework for Teaching Redox Reactions at High School Level. *International Journal of Education and Practice*. https://doi.org/10.18488/journal.61.2020.81.106.120

24. Samuel Obed Amoah, Francis Britwum, **Kenneth Adu Gyamfi** (2020). Perceptions and Preparedness of Senior High School Teachers in Ashanti Region towards the Introduction of Professional Teacher Licensing Policy in Ghana. *The International Journal of Humanities & Social Studies*. https://doi.org/10.24940/theijhss/2020/v8/i6/hs2006-004

25. **K. Adu-Gyamfi** (2020). Pre-Service Teachers' Conception of an Effective Science Teacher: The Case of Initial Teacher Training. *Journal of Turkish Science Education*. https://www.tused.org/index.php/tused/article/view/873

26. **K Adu-Gyamfi**, Joseph Ghartey Ampiah (2019). Chemistry students' difficulties in learning oxidation-reduction reactions. *Chemistry: Bulgarian Journal of Science Education*. https://www.ceeol.com/search/article-detail?id=772989

27. **Kenneth Adu-Gyamfi**, Joseph Ghartey Ampiah (2019). Students' Alternative Conceptions Associated With Application of Redox Reactions in Everyday Life. *Asian Education Studies*. https://doi.org/10.20849/aes.v4i1.590

28. **Kenneth Adu-Gyamfi**, Joseph Ghartey Ampiah, Douglas Darko Agyei (2018). TEACHERS' PROBLEMS OF TEACHING OF OXIDATION-REDUCTION REACTIONS IN HIGH SCHOOLS. *Open Access Publishing Group - European Journal of Education Studies*. https://doi.org/10.46827/ejes.v0i0.2034

29. **Adu-Gyamfi**, Joseph Ghartey Ampiah (2017). Students' difficulties in IUPAC naming of organic compounds. *Journal of Science and Mathematics Education*. https://www.researchgate.net/profile/Kenneth-Adu-Gyamfi/publication/324797375_Students'_Difficulties_in_IUPAC_Naming_of_Organic_Compounds/links/5ae2edff458515c60f6832e8/Students-Difficulties-in-IUPAC-Naming-of-Organic-Compounds.pdf

30. **Kenneth Adu-Gyamfi**, Joseph Ghartey Ampiah (2016). The junior high school integrated science: the actual teaching process in the perspective of an ethnographer. *European Journal of Science and Mathematics Education*. https://doi.org/10.30935/scimath/9469

31. **K Adu-Gyamfi**, JG Ampiah, DD Agyei (2015). High school chemistry students' alternative conceptions of H2O, OH-, and H+ in balancing redox reactions. *International Journal of Development and Sustainability*. https://www.academia.edu/download/87637478/ijds-v4n6-6.pdf

32. **Kenneth Adu-Gyamfi** (2014). Challenges faced by science teachers in the teaching of integrated science in Ghanaian junior high schools. *Journal of Science and Mathematics Education*. https://www.academia.edu/download/37022537/Adu-Gyamfi_JSME2014.pdf

33. **Kenneth Adu-Gyamfi** (2014). Using the activity method to enhance students' performance in energy transformation. *International Journal of Research Studies in Educational Technology*. https://www.learntechlib.org/p/148150/

34. **Kenneth Adu-Gyamfi**, Joseph Ghartey Ampiah (2013). Cypriot Journal of Educational Sciences. *Cypriot*

Journal of Educational Sciences. https://www.academia.edu/download/45797757/Adu-Gyamfi_et_al_CJES.pdf

35. **Kenneth Adu-Gyamfi** (2013). Lack of interest in school science among non-science students at the senior high school level. *Problems of Education in the 21st Century*. https://www.ceeol.com/search/article-detail?id=988027

36. Joseph Ghartey Ampiah, **K Adu-Gyamfi** (2013). Senior high school chemistry students' performance in IUPAC nomenclature of organic compounds. *Cypriot Journal of Educational Sciences*. https://www.academia.edu/download/62394162/529-10189-1-PB20200317-91739-16vm0ee.pdf

37. **K Adu-Gyamfi**, Joseph Ghartey Ampiah (2012). Senior high school students' difficulties in writing structural formulae of organic compounds from IUPAC names. *Journal of Science and Mathematics Education*. https://www.researchgate.net/profile/Kenneth-Adu-Gyamfi/publication/306012555_Senior_High_School_Students'_Difficulties_in_Writing_Structural_Formulae_of_Organic_Compounds_from_IUPAC_Names/links/57aa075808ae0932c96e5597/Senior-High-School-Students-Difficulties-in-Writing-Structural-Formulae-of-Organic-Compounds-from-IUPAC-Names.pdf

38. **Kenneth Adu-Gyamfi** (2011). Senior high school chemistry students' understanding of IUPAC nomenclature of organic compounds. *University of Cape Coast. Retrieved September*. https://ir.ucc.edu.gh/server/api/core/bitstreams/d1fbefc9-27ea-451d-a17c-b4cfb4e013b4/content

Book chapters 2

1. **Kenneth Adu-Gyamfi**, Isaiah Atewini Asaki, Benjamin Anim-Eduful (2023). A Comparative Study of Groups of Teachers on the Perceived Nature of Effective Teaching and Learning Science. *IntechOpen eBooks*. https://doi.org/10.5772/intechopen.110366

2. **Kenneth Adu-Gyamfi** (2022). Overcoming Students' Alternative Conceptions in Redox Reactions Using IITF Instruction: A Participatory Approach. *Progress in Education*. https://scholar.google.com/scholar?cluster=16581565923332027720&hl=en&oi=scholarr

Reports 1

1. **Kenneth Adu-Gyamfi** (2015). Improving students' performance in naming and writing structural formulae of hydrocarbons using the ball-and-stick models. *University of Cape Coast*. https://ir.ucc.edu.gh/items/f20ca145-a973-40e0-aab3-deeabb66d048

Theses 1

1. **Kenneth Adu-Gyamfi** (2016). Improving Chemistry students' conception of redox reactions using the participatory teaching and learning approach. *University of Cape Coast*. https://ir.ucc.edu.gh/items/87a24f5a-60e5-4076-bb99-bf792d0af84e