



Derick Folson

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PERSONAL PROFILE

With over 20 years of diverse teaching experience, I have a strong background in both Information and Communication Technology (ICT) and Mathematics education across various levels. My teaching journey spans primary, junior high, and senior high schools, where I have consistently demonstrated a commitment to fostering student understanding and success. In addition to my work in basic and secondary education, I also contribute to higher education as a part-time lecturer at the Department of Teacher Education, Kwame Nkrumah University of Science and Technology (KNUST). My expertise in curriculum implementation and pedagogical strategies positions me as a valuable asset in the educational field.

RESEARCH INTERESTS STATEMENT

My research interests encompass the exploration of algebraic structures, mathematical modelling, and computational mathematics, all with the overarching goal of advancing our understanding of mathematics and its diverse applications. I am dedicated to sharing my passion for mathematics with my students and colleagues, with the belief that through research and education, we can contribute to the ever-evolving landscape of mathematics and its significance in our modern world.

RESEARCH PUBLICATIONS

1. Folson, D. & Awuah, F. K. (2025). Assessing Topic Alignment in Pre-tertiary TVET Core Mathematics: A Ghanaian Case Study (2011-2023). *Interdisciplinary Journal of Education*, 8(1), 35-56. <https://doi.org/10.53449/yzxenc70>
2. Folson, D. & Awuah, F.K. (2025). Assessing Cognitive Alignment in Pre-Tertiary TVET Core Mathematics; A Ghanaian Case Study of Curriculum and Exit Examination. *East African Journal of Education Studies*, 8(2), 176-188. <https://doi.org/10.37284/eajes.8.2.2886>
3. Andam, E.A., Folson, D. & Adu, A. (2024). Effects of Po-shen Loh's Method on Students' Achievement in Quadratic Equations. *Journal of Advances in Mathematics and Computer Science*. 39(6), 91-100. <https://doi.org/10.9734/jamcs/2024/v39i61904>
4. Adu, A. & Folson, D. (2023). Effectiveness of 5E Instructional Model on Students' Performance in Mathematics Non-routine Problem. *Asian Journal of Advanced Research and Reports*. 17(5), 22-29. <https://doi.org/10.9734/ajarr/2023/v17i5482>
5. Awuah F. K. & Folson, D. (2017). Grade 12 learners' conceptual knowledge in probability and counting principles. *International Journal of Computer and Applications*. 176(6), 22-30, <https://doi.org/10.5120/ijca2017915628>.
6. Folson, D. & Awuah, F. K. (2014). Combating examination malpractices in the Basic Education Certificate Examinations (BECE) in Ghana. *International Journal of Computer and Applications*. 100(7), 12-23. <https://doi.org/10.5120/17536-8113>
7. Agyeman, E. & Folson, D. (2013). Algorithm Analysis of Numerical Solutions to the Heat Equation, *International Journal of Computer and Applications*, 79(5), 11-19. <https://doi.org/10.5120/13736-1535>

CONFERENCE PAPERS

1. Folson, D. & Awuah, F. K. (2025). Leveraging Digital Tools for Inclusive and Contextualised Teaching of Core Mathematics in Pre-tertiary TVET: A Ghanaian Perspective. In E. A. Asante (Ed.), *Proceedings of the E-learning International Conference: Transforming education through responsible and innovation and inclusion in the digital era* (pp. 23-33), Kwame Nkrumah University of Science and

ONLINE PROFILES

ORCID <https://orcid.org/0000-0003-4585-3640>
ResearchGate <https://www.researchgate.net/profile/Derick-Folson>
Academia <https://independent.academia.edu/DerickFolson>

EMPLOYMENT HISTORY

Job Title Part-time Lecturer
Name of Organization Kwame Nkrumah University of Science and Technology (Dept. of Teacher Education)
Period April, 2023 to present.
Nature of Work Teaching, assessing and grading graduate students on Philosophy and Historical Issues in Mathematics Education (DTED 553), and Misconception and Diagnostic Teaching (DTMA 554). At the undergraduate level, I handle Theories in the Learning of Mathematics (MTHJ 251), and Introduction to Teaching and Assessment (MTHJ 252).

Job Title Thesis Supervisor
Name of Organization African Institute of Mathematical Sciences -Ghana (AIMS Ghana)
Period March 2024 to August 2024
Nature of Work Co-supervised the final thesis of nine students pursuing the Master of Science in Mathematics for Teachers programme.

Job Title Principal Tutor in Mathematics
Name of Organization Methodist Technical Institute, Kwadaso – Kumasi.
Period April, 2018 to present.
Nature of Work Teaching, assessing and grading grade 10 to 12 students on the GES Core and Applied Mathematics syllabi.

Job Title Mathematics and ICT Teacher
Name of Organization World Links Academy, Atasomanso – Kumasi, Ghana.
Period February, 2012 to March, 2018
Nature of Work Teaching, assessing and grading grade 7 to 9 students on the GES Mathematics and ICT syllabi for Basic and Junior High School.

Job Title Mathematics and ICT Teacher
Name of Organization New World School
Period February, 2010 to December, 2011
Nature of Work Teaching, assessing and grading grade 7 to 9 students on the GES Mathematics and ICT syllabi for Junior High School.

Job Title Research Assistant
Name of Organization Radford University College, Accra – Ghana.
Period September, 2009 to January, 2010
Nature of Work Developing academic programmes in the fields of ICT and Mathematics for undergraduate students.

Job Title Demonstrator
Name of Organization Kwame Nkrumah University of Science and Technology, Kumasi – Ghana.
Period August, 2006 to May, 2008
Nature of Work Teaching Applied Mathematics and MATLAB programming to second-year

undergraduate students at the departments of Agricultural Engineering, Aeronautics Engineering, Civil Engineering, and Electrical/Electronic Engineering.

Job Title Programmer
Name of Organization C-Soft Consult, Kumasi – Ghana.
Period August, 2005 to July, 2006
Nature of Work Developing computer software and websites for clients.

Job Title Administrative Assistant (National Service)
Name of Organization Freeman Centre for Missions and Leadership Development, Kumasi – Ghana.
Period November, 2004 to August, 2005
Nature of Work General maintenance of computer systems and compilation of Weekly Bible Lessons manual for the Methodist Church, Ghana.

EDUCATIONAL BACKGROUND

Degree PhD. Mathematics Education
Thesis Title Alignment of Pre-Tertiary TVET Exit Examinations in Ghana: A Case of Core Mathematics
Expected Graduation Date November, 2025
Name of Institution Attended Kwame Nkrumah University of Science and Technology, Kumasi – Ghana.
Academic Positions Held Judicial Chair SWDA – KNUST

Degree M.Phil. Mathematics Education
Graduation Date September, 2022
Name of Institution Attended Akenten Appiah-Menka University of Skills Training and Entrepreneurial Development, Kumasi – Ghana.
Thesis Title Effect of constructivism teaching and learning approach on Circle Theorem achievement among pre-tertiary TVET students.

Degree Diploma in Education
Graduation Date April, 2019
Name of Institution University of Education, Winneba, Kumasi – Ghana.

Degree Certificate in Environmental Law and Policy
Graduation Date November, 2013
Name of Institution Attended University of North Carolina, U.S.A.

Degree Diploma in Statistics
Graduation Date January, 2012
Name of Institution Attended Alison Online School, Ireland

Degree M.Sc. Mathematics
Graduation Date June, 2009
Name of Institution Kwame Nkrumah University of Science and Technology, Kumasi – Ghana.
Thesis Title Vibration of High-rise Buildings
Academic Position Held Member of Disciplinary Committee, GRASAG.

Degree B.Sc. Computer Science
Graduation Date June, 2004
Name of Institution Attended Kwame Nkrumah University of Science and Technology, Kumasi – Ghana.
Thesis Title Computerization of Church Management Records.
Academic Awards Computer Science Personality of the Year 2002

Degree S.S.C.E.
Graduation Date December, 1997
Name of Institution Attended Opoku Ware School, Kumasi – Ghana.

Degree B.E.C.E.
Graduation Date August, 1995
Name of Institution Attended State Experimental School, Kumasi – Ghana.

POSITIONS HELD

- Head of Mathematics Department at Methodist Technical Institute, Kumasi (October, 2024-date)
- PhD representative to the organizing committee of the Department of Teacher Education, KNUST's maiden conference (July, 2025 – date)
- Judicial Chair – Students with Disability Association-KNUST (2021-2023)
- Form Master for Building and Construction students at Methodist Technical Institute, Kumasi (2021-2023)
- Form Master for Wood Technology students at Methodist Technical Institute, Kumasi (2019-2021)
- Disciplinary Committee Member – Graduate Students Association of Ghana (2007-2008)
- General Secretary – Students with Disability Association -KNUST (2002-2004)

CONFERENCES ATTENDED

Type: In-person
Theme: Transforming education through responsible and innovation and inclusion in the digital era
Organized by: E-learning Centre, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana.
Date: 24th – 25th July, 2025

Type: Webinar
Theme: State-of-the-art research on the teaching and learning of mathematical modelling
Organized by: University of Cape Coast in conjunction with Nord University and University of Hamburg
Date: 2nd August, 2023

Type: Webinar
Theme: Variation Theory
Organized by: University of Cape Coast in conjunction with University of Oxford, Jonkoping University, and University College London
Date: 2nd October – November, 2023

ACADEMIC BOOKS PUBLISHED

- *Core Mathematics for Senior High Schools*, published in 2023 by Approachers Ghana Limited.
- *I.C.T. Textbooks and Workbooks for Basic Schools* published in 2014 by Abele-Soft Consult, Ghana.
- *Elective Mathematics for Senior High Schools* was self-published in 2010.
- *Core Mathematics for Junior High Schools* was self-published in 2010.
- *Handbook of Ashanti Proverbs* was self-published in 2009.

GENERAL AND COMPUTER SKILLS/COMPETENCIES

- Excellent analytical, communication and reporting skills.
 - Good organizational and interpersonal skills with a service-oriented outlook.
 - Good command of Microsoft Office tools (Word, Excel, Access, PowerPoint, and Publisher).
 - Good knowledge of Mathematical and Computer programming applications (MatLab, Mathematica, Lingo, SPSS, GENSTAT and R.).
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- Excellent knowledge in Computer programming (Microsoft Visual Basic, Fortran and LaTeX).
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AWARDS RECEIVED

- World Links Academy's Most dedicated worker of the year award 2012/2013 academic year.
 - New World School' Teacher of the Year Award 2010/2011 Academic year.
 - Computer Science Personality of the Year (2003/2004 academic year).
 - Active Member of University Hall, KNUST (2002/2003 and 2003/2004 academic years).
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INTERESTS AND HOBBIES

- A passion for reading academic journals, books, and staying updated with the latest research in the field of mathematics education and technology.
 - Enjoy writing articles, papers, or blogs related to educational topics or research findings.
 - A hobby of exploring data sets and using statistical tools, which align well with research activities.
 - Helping students or peers in their academic journey, and guiding them in research projects.
 - Exploring new teaching tools, platforms, or methods to enhance learning and research.
 - Interest in learning new languages, which can be useful for reading diverse research materials or engaging with international colleagues.
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JOURNALS I SERVE AS A REVIEWER

- International Journal of Computer Sciences and Informatics
 - Journal of Technical Education and Training
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COMPLETED POSTGRADUATE SUPERVISION

- M.Ed. Mathematics Education: GeoGebra and learners' conceptual understanding in graphing and interpreting quadratic functions: A systematic review (Richard Fosu AMPONSAH, 2024, Ghana)
 - M.Ed. Mathematics Education: Trend analysis of alignment between mathematics curriculum and examination (Kwaku Atta ADJEI, 2024, Ghana)
 - M.Ed. Mathematics Education: Teachers' use of inquiry-based approach to facilitate geometry in mathematics classroom: A systematic review. (Roland Marvin MILLS, 2024, Ghana)
 - M.Ed. Mathematics Education: Teachers' use of inquiry-based approach to facilitate geometry in mathematics classroom: A systematic review. (Ernestina Pokuaa AGYEMANG, 2024, Ghana)
 - M.Ed. Mathematics Education: Teachers' use of inquiry-based approach to facilitate geometry in mathematics classroom: A systematic review. (Christiana Aba QUAYE, 2024, Ghana)
 - M.Ed. Mathematics Education: A systematic review of teachers' use of inquiry-based in teaching geometry. (Jared Mogere ONDIGI, 2024, Ghana)
 - M.Ed. Mathematics Education: Graphing and interpreting quadratic functions using GeoGebra (Ellen OPOKU, 2024, Ghana)
 - M.Ed. Mathematics Education: Facilitating geometry using inquiry-based: A systematic review (Cynthia Mbama AZURE, 2024, Ghana)
 - M.Ed. Mathematics Education: The use of GeoGebra in teaching quadratic functions: A systematic review (Dauda SEIDU, 2024, Ghana)
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ONGOING POSTGRADUATE SUPERVISION

- Application of Ethnomathematics to Enhance Student Achievement in Algebra in Senior High School in Ghana (Ellen Appiah ASANTE – submitted M.Ed. Thesis)
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- Impact of Teachers' Mathematics Content Knowledge on Senior High School Students' Achievement in Linear Equations; A Case Study in a Selected Senior High School in Sekyere Central District of Ashanti Region, Ghana. (Michael ANANKPIENG – submitted M.Ed. Thesis)
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REFEREES

Dr. Francis Kwadwo Awuah
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