Douglas D. Agyei

Professor · Mathematics & ICT Education
University of Cape Coast

ORCID 0000-0003-1762-578X · Homepage directory.ucc.edu.gh/p/douglas-darko-agyei · Google Scholar scholar.google.com/citations?user=5W6ARJ8AAAAJ&hl=en · ResearchGate researchgate.net/profile/Douglas-Agyei · Google Scholar scholar.google.com/citations?user=5W6ARJ8AAAAJ&hl=en · Profile scholar.ucc.edu.gh/staff/b96ec19a-e45e-407c-8c4e-5a8256267920

PROFILE

Douglas Darko Agyei is a Professor of Mathematics Education in the Department of Mathematics and ICT Education at the University of Cape Coast. He holds a PhD degree in Curriculum Design & Instructional Technology (Mathematics Education) from the University of Twente, The Netherlands and a Master's degree in Applied Mathematics from the University of Kaisersalutern, Germany. He obtained his First degree in Mathematics Education, from the University of Cape Coast, Ghana. His research interest includes Mathematics Education, Educational Technology, Technological Pedagogical and Content Knowledge and his research has resulted in over 60 publications in several refereed journals (including Technology, pedagogy and education, Computers and Education, Technology, Knowledge and Learning, Australasian Journal of Educational Technologies and Education and Information Technologies) and conference proceedings. Professor Agyei has presented papers locally and internationally in several countries in Europe, the USA, Japan, Malawi, Zimbabwe etc. He is a leading expert and research practitioner in the field of ICT education in Ghana and across Africa. He was ranked as the leading EdTech researcher in Ghana in the EdTech Hub's 2021 country-level research review and in 2014, he won the Best Paper Award from the Society for Information Technology and Teacher Education (SITE) at the 25th Annual International conference, in Jacksonville, USA.

Professor Agyei has more than 12 years of professional experience in managing projects relating to ICT Education and has served in different capacities in several international collaborations and consultancy projects. In particular, he mostly served as the Lead Consultant in Monitoring and Evaluation projects, Impact projects, ICT-related projects and Audit Reviews funded by Development Agencies such as USAID, Microsoft, British Council, UNESCO, World Bank and the Ministry of Education, Ghana. Among others, he has led major projects such as: 1) Building capacity of community health care workers and volunteers in the prevention and management of maternal anaemia and malnutrition in children (UNESCO- UNEVOC sponsored project implemented by University of Cape Coast, Ghana); 2) Strengthening the capacity of TVET instructors in Ghana to use technology supported teaching-learning strategies (UNESCO- UNEVOC sponsored project implemented by University of Cape Coast, Ghana); 3) Development of Training Model for Africa Digital Schools Initiatives Baseline Research Analysis across three African Countries: Kenya, Tanzania and Cote D'Ivoire (Global E-Schools and Communities Initiatives (GESCI) in partnership with the MasterCard Foundation sponsored project); 4) Development of ICT-based Assessment Framework for M&E and a Road Map for Implementing ICT Teacher Training Initiatives in Uganda (a UNESCO funded project); 5) Comprehensive Audit Review of Higher Learning Institutions in Rwanda for the Higher Education Council, Republic of Rwanda sponsored by the (Government for Republic of Rwanda sponsored project); 6) Global E-Schools and Communities Initiatives (GESCI) project on Monitoring & Evaluation study for Africa (Kenya, Tanzania, Uganda, Ethiopia, Ghana and Nigeria) Digital Schools [Badiliko] (British Council-Microsoft sponsored project); 7) Global E-Schools and Communities Initiatives (GESCI) project on Impact Evaluation study for Africa (Kenya, Tanzania, Uganda, Ethiopia, Ghana and Nigeria) Digital Schools [Badiliko] (British Council-Microsoft sponsored project); 8) Monitoring and Evaluation Study for Ghana Senior High Schools Connectivity Project (2012-2013) (USAID Sponsored project). He has served and continues to serve on several Boards and Committees in and outside Ghana.

Professor Agyei has risen through the ranks and file of the University's leadership and administrative positions. In 2014, he served as the Founding Director of the Centre for Teaching Support- a Centre that has become a training hub for lecturers in the University of Cape Coast, its affiliates Institutions, as well as many other higher education institutions in Ghana. He has also served as a Head of Department (2018- 2019) for the Department of Science Education (DSE) and Vice Dean (2018-2019) for the Faculty of Science and Technology Education (FSTE), and Dean (2019- Feb., 2025) for the Faculty of Science and Technology Education (FSTE). Currently, Professor Agyei serves as the Provost of the College of Education Studies (CES). As Provost, he oversees

financial and administrative affairs for three faculties and a school, managing over 500 faculty and administrative staff.

Alongside his administrative responsibilities, Professor Agyei is dedicated to postgraduate education, having facilitated several postgraduate programmes and mentored numerous doctoral and master's students.

RESEARCH

Interests	Educational Technology · Instructional Technology · Technological Pedagogical Content Knowledge · Mathematics Education · Curriculum and Teaching · TPACK · Information and Communication Technology
Areas	Education · Developmental and Educational Psychology · Applied Mathematics · Gender Studies · Information Systems · Information Systems and Management

RESEARCH SUMMARY

93	2,019	22	33	6.83	44%
Publications	Citations	h-index	i10-index	Field-weighted impact	World top 10%

Counted from the 93 publications listed below, 2006–2026. Field-weighted impact is the mean over the 59 works scored for it; 1.00 is the world average for works of the same field, type and year. 26 of the 59 papers scored for it are among the world's most cited tenth for their field, type and year.

POSITIONS

Professor 2021–present
Mathematics and ICT Education, University of Cape Coast, Cape Coast, Ghana

EDUCATION AND QUALIFICATIONS

PhD
University of Twente, Enschede, Netherlands

Bachelor
University of Cape Town, Cape Coast, Ghana

Masters
University of Kaiserslautern, Kaiserslautern, Germany

DISTINCTIONS, MEMBERSHIPS AND SERVICE

Short Term Visiting Scholar 2024
Faculty of Education, University of the Free State, Bloemfontein, South Africa

Short Term Visiting Scholar 2019
Faculty of Education, University of the Free State, Bloemfontein, South Africa

Short Term Visiting Scholar 2018
Faculty of Education, University of the Free State, Bloemfontein, South Africa

Short Term Visiting Scholar 2018
Grand Valley State University, Allendale, United States

Short Term Visiting Scholar 2017
Faculty of Education, University of the Free State, Bloemfontein, South Africa

Visiting Professor 2013
Centre for International Cooperation in Education (CICE), Hiroshima University, Hiroshima, Japan

PUBLICATIONS

Journal articles 71

1. Isaac Benning, George Adom, **Douglas Darko Agyei**, Japhet Kwasi Osiakwan, Helena Naa Korkor Tetteh, Forster D. Ntow (2026). A multivariate and structural modelling analysis of teacher readiness and adoption of the TM1 laptop computer for classroom use. *Discover Education*. https://doi.org/10.1007/s44217-026-01698-1
2. Richard Kyere Asomah, **Douglas Darko Agyei**, Gabriel Assamah (2026). Assessing high school students' views on how Ghana's Wi-Fi technology program influences learning: an empirical study in Cape Coast Metropolis of Ghana. *Humanities and Social Sciences Communications*. https://doi.org/10.1057/s41599-026-08259-9
3. Victus Kumazah, **Douglas Darko Agyei** (2026). Building a positive Senior High School Students' Attitude towards Geometry: A guide to implementing Inquiry-Based Teaching Methods. *Journal of Education and Practice*. https://doi.org/10.7176/jep/17-4-03
4. Eric Sefa Boye, **Douglas Darko Agyei** (2025). Determinants of academic performance of armed forces schools: perceptions of teachers of Ghana armed forces basic schools. *Discover Education*. https://doi.org/10.1007/s44217-025-00419-4
5. Victus Kumazah, **Douglas Darko Agyei** (2025). Enhancing High School Geometry Learning with Inquiry-Based Teaching: Impact on Student Understanding, Performance, and Attitudes. *African Journal of Educational Studies in Mathematics and Sciences*. https://doi.org/10.4314/ajesms.v21i1.1
6. Richard Kyere Asomah, **Douglas Darko Agyei** (2025). Implementing Cooperative Learning Based-Approach in Mathematics Classroom Context: The Experiences of High School Teachers. *Innovations in Pedagogy and Technology*. https://doi.org/10.63385/ipt.v1i1.33
7. V Kumazah, **DD Agyei** (2025). Uncovering the power of inquiry-based teaching; Enhancing geometric thinking skills in students. *International Journal for Multidisciplinary Research (IJFMR)*. https://scholar.google.com/scholar?cluster=8286594842636048596&hl=en&oi=scholarr
8. Williams Osei, **Douglas Darko Agyei** (2024). Analyses of algebra knowledge and difficulties among Ghanaian Junior High School learners: Insights from standard-based mathematics curriculum implementation. *Social Sciences & Humanities Open*. https://doi.org/10.1016/j.ssaho.2024.101019
9. Bernard Fentim Darkwa, **Douglas Darko Agyei**, Joseph Tufuor Kwarteng (2024). Developing interactive pedagogies: A case of accounting pre-service teachers from Ghana. *African Journal of Teacher Education*. https://doi.org/10.21083/ajote.v13i1.7218
10. Richard Kyere Asomah, **Douglas Darko Agyei**, Gabriel Assamah, Kwaku Darko Amponsah (2024). Examining teachers' perceptions of the impact of government of Ghana's wi-fi technology program on teaching practices: an empirical study from the senior high schools in the cape coast metropolis. *Cogent Education*. https://doi.org/10.1080/2331186x.2023.2296455
11. **Douglas Agyei** (2024). Future Learning Environment: Integrating Digital and Physical Learning Spaces. *Report of EDUsummIT 2023*. https://research.usq.edu.au/item/z4xzq/future-learning-environment-integrating-digital-and-physical-learning-spaces
12. **Douglas Darko Agyei** (2024). Harmony in Teaching: Unraveling the Interplay between Pre-Service Teachers' Mathematical Knowledge Fractions and Classroom Practices. *Mathematics Teaching Research Journal*. https://eric.ed.gov/?id=EJ1442355
13. Williams Osei, **Douglas Darko Agyei** (2024). Transition from Knowledge of Algebra for Teaching (KAT) to Technological Knowledge of Algebra for Teaching (T-KAT). *Cogent Education*. https://doi.org/10.1080/2331186x.2024.2369000
14. Eric S. Boye, **Douglas D. Agyei** (2024). Understanding Problem-Based Learning and its Application in Learning Mathematics Concepts Among Pre-Service Teachers. *European Journal of Mathematics and Science Education*. https://doi.org/10.12973/ejmse.5.1.51
15. Charles Kwabena Sie, **Douglas Darko Agyei** (2023). Building network of relationships between teachers'

mathematical knowledge for teaching fractions and teaching practices. *Eurasia Journal of Mathematics Science and Technology Education*. https://doi.org/10.29333/ejmste/13087

16. Eric Sefa Boye, **Douglas Darko Agyei** (2023). Effectiveness of problem-based learning strategy in improving teaching and learning of mathematics for pre-service teachers in Ghana. *Social Sciences & Humanities Open*. https://doi.org/10.1016/j.ssaho.2023.100453
17. Richard Kyere Asomah, **Douglas Darko Agyei**, Forster D. Ntow, Isaac Benning (2023). Hypothetical Approach to the Teaching of Trigonometric Concepts Using Cooperative Learning. *Education Research International*. https://doi.org/10.1155/2023/2051776
18. **Douglas Darko Agyei** (2023). Improving senior high school student academic achievement and attitude towards logarithmic function. *Faculty of Natural and Applied Sciences Journal of Mathematics, and Science Education*. https://fnasjournals.com/index.php/FNAS-JMSE/article/view/145
19. Christopher Yaw Kwaah, **Douglas Darko Agyei**, Esinam Ami Avornyo (2023). Improving teacher-student classroom interactions: what role do social and cultural backgrounds of teachers and students play? *Pedagogies An International Journal*. https://doi.org/10.1080/1554480x.2023.2262986
20. Charles Kwabena Sie, **Douglas Darko Agyei** (2023). Relationship between pre-service teachers' mathematical knowledge for teaching fractions and their teaching practices: What is the role of teacher anxiety? *Contemporary Mathematics and Science Education*. https://doi.org/10.30935/conmaths/13252
21. Emmanuel Agyei, **Douglas Darko Agyei**, Isaac Benning (2023). Teaching Mathematics with Digital Technologies: A Situational Analysis of High School Teachers' Experiences in Ghana. *African Journal of Research in Mathematics Science and Technology Education*. https://doi.org/10.1080/18117295.2023.2265241
22. Williams Osei, **Douglas Darko Agyei** (2023). Teaching knowledge and difficulties of In-field and Out-of-field Junior High School mathematics teachers in algebra. *Cogent Education*. https://doi.org/10.1080/2331186x.2023.2232240
23. Richard K. Asomah, **Douglas D. Agyei**, Gabriel Assamah (2022). A SWOT Analysis of E-Learning Integration in University of Cape Coast. *European Journal of Education and Pedagogy*. https://doi.org/10.24018/ejedu.2022.3.4.373
24. Nancy Innocentia Ebu Enyan, Christian Makafui Boso, Anastasia Adomah Ofori, Dorcas Frempomaa Agyare, Irene Korkoi Aboh, Nkechi Oluwakemi Dike, **Douglas Darko Agyei**, Dorcas Obiri-Yeboah (2022). Clinical preceptorship in Ghana in the era of COVID-19 pandemic: an interventional study. *BMC Nursing*. https://doi.org/10.1186/s12912-022-00838-w
25. Richard Kyere Asomah, **Douglas Darko Agyei**, Forster D. Ntow (2022). Developing in-service mathematics teachers' pedagogical content knowledge and skills to teach trigonometry: Using cooperative teaching and learning approach. *Contemporary Mathematics and Science Education*. https://doi.org/10.30935/conmaths/12540
26. Helena Tetteh, **Douglas Agyei** (2022). Factors Influencing Pre-Service Teachers' Performance in Mathematics in Colleges of Education: Re-counting Experiences in Ghana. *African Journal of Educational Studies in Mathematics and Sciences*. https://doi.org/10.4314/ajesms.v18i1.6
27. Emmanuel Agyei, **Douglas Darko Agyei**, Isaac Benning (2022). In-service mathematics teachers' preparedness, knowledge, skills, and self-efficacy beliefs of using technology in lesson delivery. *Cogent Education*. https://doi.org/10.1080/2331186x.2022.2135851
28. Nixon Saba Adzifome, **Douglas Darko Agyei** (2022). Learning with mobile devices - insights from a university setting in Ghana. *Education and Information Technologies*. https://doi.org/10.1007/s10639-022-11300-4
29. Annie Sawyerr, **Douglas Darko Agyei** (2022). Mathematics teachers' use of ICT in classroom instruction: Exploring the will-skill-tool-pedagogy model in the Ghanaian context. *Education and Information Technologies*. https://doi.org/10.1007/s10639-022-11234-x
30. Abednego Kofi Bansah, **Douglas Darko Agyei** (2022). Perceived convenience, usefulness, effectiveness and user acceptance of information technology: evaluating students' experiences of a Learning Management System. *Technology Pedagogy and Education*. https://doi.org/10.1080/1475939x.

2022.2027267

31. John Erebakyere, **Douglas Darko Agyei** (2022). Teaching and learning circle theorems with Dynamic Autograph technology: Should we employ the social-interaction or the self-exploration strategy? *African Journal of Educational Studies in Mathematics and Sciences*. https://doi.org/10.4314/ajesms.v18i1.5
32. **Douglas Darko Agyei** (2022). Transferring and sustaining technological innovations after professional development: Insights from school leaders and teachers in Sub-Saharan Africa. *Journal of Applied Learning & Teaching*. https://doi.org/10.37074/jalt.2022.5.s2.4
33. BF Darkwa, **DD Agyei** (2021). Developing Technology Pedagogical and Content Knowledge in Pre-Service Accounting Teachers with the Use of Audio-Visuals: A Ghanaian Perspective. *Open Journal of Social Sciences*. https://www.scirp.net/journal/paperinformation?paperid=110888
34. Ernest Kofi Davis, Clement Ayarebilla Ali, **Douglas Darko Agyei** (2021). Effectiveness of Semiosis for Solving the Quadratic Equation. *European Journal of Mathematics and Science Education*. https://doi.org/10.12973/ejmse.2.1.13
35. Elizabeth Darko Agyei, **Douglas Darko Agyei** (2021). Enhancing Students' Learning of Physics Concepts with Simulation as an Instructional ICT Tool. *European Journal of Interactive Multimedia and Education*. https://doi.org/10.30935/ejimed/11259
36. Elizabeth Darko Agyei, **Douglas Darko Agyei** (2021). Promoting Interactive Teaching with ICT: Features of Intervention for the Realities in the Ghanaian Physics Senior High School Classroom. *International Journal of Interactive Mobile Technologies (iJIM)*. https://doi.org/10.3991/ijim.v15i19.22735
37. Farouq Sessah Mensah, **Douglas Darko Agyei** (2021). The Paradox of Ghanaian High School Mathematics Teachers' Perspectives on ICT Use. *African Journal of Teacher Education*. https://doi.org/10.21083/ajote.v10i1.6521
38. Emmanuel Arthur-Nyarko, **Douglas Darko Agyei**, Justice Kofi Armah (2020). Digitizing distance learning materials: Measuring students' readiness and intended challenges. *Education and Information Technologies*. https://doi.org/10.1007/s10639-019-10060-y
39. Mohammed Nurudeen Alhassan, **Douglas Darko Agyei** (2020). Examining Colleges of Education Mathematics Tutors' Conceptions in Teaching Completing the Square in Ghana. *International Journal of Scientific and Research Publications*. https://doi.org/10.29322/ijsrp.10.03.2020.p9927
40. Daniel Ashong, **Douglas Darko Agyei**, Helena Naa Korkor Tetteh (2020). Examining Pre-Service Teachers' Attitude Towards Ict-Integration In Teaching And Learning Of Geometrical Constructions. *International Journal of Scientific and Research Publications*. https://doi.org/10.29322/ijsrp.10.03.2020.p9989
41. **Douglas Darko Agyei** (2020). Integrating ICT into schools in Sub-Saharan Africa: from teachers' capacity building to classroom implementation. *Education and Information Technologies*. https://doi.org/10.1007/s10639-020-10253-w
42. 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
43. **Douglas Darko Agyei** (2020). The impact of educational technology initiatives on students learning outcomes: Perspectives of Sub-Saharan Africa. *International Journal of Education, Learning and Development*. https://ir.ucc.edu.gh/server/api/core/bitstreams/a03131b4-d279-41eb-85c1-30177469ea6f/content
44. **Elizabeth D. Agyei** (2019). Feasibility of ICT use in teaching physics at the senior high schools in Ghana. *International Journal of Education, Learning and Development*. https://ir.ucc.edu.gh/server/api/core/bitstreams/76112b31-1f74-433f-b219-29fd2ee1acc4/content
45. Farouq Sessah Mensah, **Douglas Darko Agyei** (2019). Philosophy of teaching, teaching style and ICT use: a qualitative study of the perspectives of high school mathematics teachers. *African Journal of Educational Studies in Mathematics and Sciences*. https://doi.org/10.4314/ajesms.v15i1.1
46. MN Alhassan, **Douglas Darko Agyei** (2018). Colleges of Education Mathematics Tutors' Problems and Challenges associated with the Teaching of Quadratics using Completing the Square Approach. *Contemporary Educational Technology*. https://ir.ucc.edu.gh/server/api/core/bitstreams/

7ae4266d-8f7b-44a4-a0f7-4c6acd0a9e34/content

47. Helena Naa Kokor Tetteh, **Douglas Darko Agyei**, Daniel Ashong (2018). Correlates Of Senior High School Students' Attitude And Internet Usage. *International Journal of Innovative Research and Development*. https://doi.org/10.24940/ijird/2018/v7/i4/apr18038

48. **Douglas D Agyei** (2018). High school students' attitudes towards the study of mathematics and their perceived teachers' teaching practices. *European Journal of Educational and Development Psychology*. https://ir.ucc.edu.gh/server/api/core/bitstreams/42bc9f57-5124-4e5a-968c-a82d4b498da1/content

49. **Douglas Darko Agyei**, Farouq Sessah Mensah (2018). Mathematics learning through classroom assessment: Evaluating the value of weekly class tests. *African Journal of Educational Studies in Mathematics and Sciences*.

50. **Douglas D Agyei** (2018). Students' Errors and Misconceptions in Algebra: Exploring the Impact of Remedy Using Diagnostic Conflict and Conventional Teaching Approaches. *International Journal of Education, Learning and Development*.

51. Dale S. Niederhauser, Sarah K. Howard, Joke Voogt, **Douglas D. Agyei**, Therese Laferriere, Jo Tondeur, Margaret J. Cox (2018). Sustainability and Scalability in Educational Technology Initiatives: Research-Informed Practice. *Technology Knowledge and Learning*. https://doi.org/10.1007/s10758-018-9382-z

52. 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

53. HB Essel, **Douglas Darko Agyei** (2017). Globalization and ODeL in Education; eLearning made easy. *Lambert Publications*. https://scholar.google.com/scholar?cluster=7057753052674197509&hl=en&oi=scholarr

54. I Benning, **Douglas D. Agyei** (2016). Effect of using spreadsheet in teaching quadratic functions on the performance of senior high school students. *International Journal of Education, Learning and Development*. https://www.academia.edu/download/42406371/IKE___DD_paper_1.pdf

55. **DD Agyei** (2016). Pre-service mathematics teachers' learning and teaching of activity-based lessons supported with spreadsheets. *Technology*.

56. **DD Agyei** (2016). Preservice teachers' technological, pedagogical and content knowledge in utilizing the Merrill's first principles in solving polynomials. *Merit Research Journal of Education and Review*. https://scholar.google.com/scholar?cluster=14771727635867742176&hl=en&oi=scholarr

57. **Douglas D Agyei** (2015). Evaluating Teachers' Professional Development For ICT Use: Towards Innovative Classroom Practices. *International Journal of Education, Learning and Development*. https://www.researchgate.net/profile/Douglas-Agyei/publication/289670497_Evaluating_Teachers'_Professional_Development_For_ICT_Use_Towards_Innovative_Classroom_Practices/links/5690e7d108aec14fa55a5945/Evaluating-Teachers-Professional-Development-For-ICT-Use-Towards-Innovative-Classroom-Practices.pdf

58. 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

59. **Douglas D. Agyei**, Joke M. Voogt (2015). Pre-service teachers' TPACK competencies for spreadsheet integration: insights from a mathematics-specific instructional technology course. *Technology Pedagogy and Education*. https://doi.org/10.1080/1475939x.2015.1096822

60. **Douglas D. Agyei**, Joke Voogt (2014). Examining factors affecting beginning teachers' transfer of learning of ICT-enhanced learning activities in their teaching practice. *Australasian Journal of Educational Technology*. https://doi.org/10.14742/ajet.499

61. **Douglas D. Agyei**, Joke M. Voogt (2014). Pre-service mathematics teachers' learning and teaching of activity-based lessons supported with spreadsheets. *Technology Pedagogy and Education*. https://doi.org/10.1080/1475939x.2014.928648

62. FC Awoniyi, **D. D Agyei** (2014). Relationship between Senior High School Mathematics Teachers' Professional Status, Years of experience and Test construction activities in the Cape Coast Metropolis.

Journal of Science and Mathematics Education. https://scholar.google.com/scholar?cluster=10887786570806398799&hl=en&oi=scholarr

63. **Douglas D Agyei** (2013). Analysis of Technology Integration in Teacher Education in Ghana. *Journal of Global Initiatives: Policy, Pedagogy, Perspective*. https://digitalcommons.kennesaw.edu/jgi/vol8/iss1/5/
64. **Douglas Darko Agyei**, Joke Voogt (2013). Examining factors affecting beginning teachers' transfer of learning of ICT-enhanced learning activities in their teaching practice. *UvA-DARE (University of Amsterdam)*.
65. **Douglas Darko Agyei** (2013). The Effect of Using Interactive Spreadsheet as a Demonstrative Tool in the Teaching and Learning of Mathematics Concepts.
66. **Douglas D. Agyei**, Joke Voogt (2012). Developing technological pedagogical content knowledge in pre-service mathematics teachers through collaborative design. *Australasian Journal of Educational Technology*. https://doi.org/10.14742/ajet.827
67. **Douglas D. Agyei**, Joke M. Voogt (2010). Exploring the potential of the will, skill, tool model in Ghana: Predicting prospective and practicing teachers' use of technology. *Computers & Education*. https://doi.org/10.1016/j.compedu.2010.08.017
68. **Douglas D. Agyei**, Joke Voogt (2010). ICT use in the teaching of mathematics: Implications for professional development of pre-service teachers in Ghana. *Education and Information Technologies*. https://doi.org/10.1007/s10639-010-9141-9
69. **D.D. Agyei** (2009). Performance Review of Value Added Tax in Ghana: 1996-2006. *Journal of Business and Enterprise Development*.
70. **D.D Agyei** (2008). Analysis of Birth Data from the Cape Coast Municipality of Ghana. *Journal of Natural Sciences*.
71. **DD Agyei** (2008). Gender differences in mathematics performance: Some fresh insights. *Gender and Behaviour*. https://doi.org/10.10520/ejc34546

Book chapters 4

1. Victus Kumazah, **Douglas Darko Agyei** (2026). From Classroom to Long-Term Results: The Impact of Inquiry-Based Teaching on Student Achievement and Retention in Geometry. *International Journal of Science and Mathematics Education*. https://doi.org/10.1007/s10763-025-10640-0
2. **Douglas D. Agyei**, Ayoub Kafyulilo (2019). Continuation of Collaborative Curriculum Design Outcomes: Teachers' Transfer of Teaching with Technology. https://doi.org/10.1007/978-3-030-20062-6_20
3. **Douglas D. Agyei** (2019). From Needs Analysis to Large-Scale Implementation: Using Collaborative Design to Support ICT Integration. https://doi.org/10.1007/978-3-030-20062-6_17
4. **Douglas D. Agyei**, Jared Keengwe (2012). Using technology pedagogical content knowledge development to enhance learning outcomes. *Education and Information Technologies*. https://doi.org/10.1007/s10639-012-9204-1

Conference papers 10

1. CA Ali, **Douglas D Agyei** (2017). 4T Models of Anthropological Moments of Didactical Praxeologies in the Parabola with Digital Technologies. *Innovative and Creative Education and Teaching International Conference (ICETIC)*. https://www.researchgate.net/profile/Joao-Carlos-Leitao/publication/321528929_Atas_ICETIC_FullPapers/links/5a2673134585155dd42193cb/Atas-ICETIC-FullPapers.pdf#page=70
2. Joke Voogt, Punya Mishra, Ann D. Thompson, Denise Crawford, Wei Wang, Dale S. Niederhauser, Petra Fisser, Jo Tondeur, Johan van Braak, Ayoub Kafyulilo, **Douglas Darko Agyei** (2013). Measuring TPACK: Part 2. *University of Twente Research Information*.
3. **DD Agyei** (2013). Pre-service teachers' development of technology integration competencies: Insights from a mathematics-specific instructional technology course in Ghana. *ISATT 2013 conference: 16th Biennial Conference on Teachers and Teaching*. https://research.utwente.nl/en/publications/pre-service-teachers-development-of-technology-integration-compet/

4. **Douglas Agyei** (2012). Developing TPACK around the world: Probing the framework even as we apply it. *Society for Information Technology & Teacher Education International Conference*. https://www.learntechlib.org/p/39729/
5. **Agyei, D.D.**, Voogt, Joke, Resta, P. (2012). Pre-service mathematics teachers' learning and teaching of activity-based lessons supported with spreadsheets. *University of Twente Research Information*.
6. **Agyei, D.D.**, Voogt, Joke, Resta, P. (2012). Pre-service teachers ' competencies for technology integration: Insights from a mathematics-specific instructional technology course. *University of Twente Research Information*.
7. **Douglas Agyei** (2012). SITE 2012 Symposium Proposal: Developing TPACK around the world: Probing the framework even as we apply it. *Society for Information Technology & Teacher Education International Conference 2012*.
8. **Douglas Darko Agyei**, Joke Voogt (2011). Determining Teachers' TPACK through observations and self-report data. *University of Twente Research Information*.
9. **Douglas Agyei** (2011). Teachers' assessment of TPACK: Where are we and what is needed? *Society for Information Technology & Teacher Education International Conference*. https://www.learntechlib.org/p/37028/
10. Joke Voogt, Ann D. Thompson, Punya Mishra, Petra Fisser, Ghaida Allayar, **Douglas Darko Agyei**, Matthew J. Koehler, Tae Seob Shin, Leigh Graves Wolf, Mike DeSchryver, Denise Schmidt, Evrim Baran (2010). Strategies for teacher professional development on TPACK, Part 2. *Society for Information Technology & Teacher Education International Conference*.

Reports 8

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