

Personal Data

Full Name

Nicholas K. Oppong

Present Rank and Date Appointed

Associate Professor, 2002

Department and/or College

Department of Mathematics and Science Education, College of Education

Campus mailing address

Department of Mathematics and Science Education, 105 Aderhold Hall, Athens,
GA 30602

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noppong@uga.edu

Scholarly Competence

Education:

Doctor of Education, Mathematics Education, University of Georgia, 1992.

Master of Education, Mathematics Education, University of Georgia, 1988.

Bachelor of Science (Education), Mathematics (major), Physics (minor),
Education, University of Cape Coast, Ghana, 1975.

Title of dissertation

Mathematics Generalizations Made by High School Students in Mathematics
Problem Solving Sessions.

Academic and professional positions held

University of Georgia, Associate Professor of Mathematics Education, 2002-
present.

NCATE/PSC, Member of Board of Examiners, 2004-present.

University of Georgia, Program Coordinator of Mathematics Education, January
2005- January 2006.

University of Georgia, Assistant Professor of Mathematics Education, 1995-2002.

University of Illinois at Chicago, Assistant Professor, Joint with Mathematics, Statistics and Computer Science and the College of Education, 1992- 1995. Served as: Member, Elementary Education Subcommittee; Member, Secondary Education Subcommittee; Member, Ph.D. in Mathematics Education Committee; Member, Educational Technology Task Force; Member, Mathematics and Science Education Task Force; Member, Chicago Systemic Initiative Design Team, Douglass Mathematics and Science Academy; Member, Chicago Systemic Initiative Design Team, Robert Emmet School; Mathematics Content Advisory Committee Member, State of Illinois Certification Testing System. 1993/94, and 1994/95.

Editor, *The Mathematics Educator*, 1990-91.

College of Technology, Illorin, Nigeria, Mathematics Lecturer, 1981-1986.

Ahmadu Bello University, Assistant Examiner, Interim Joint Matriculation Board Examination, 1984-1986.

Ibadan Grammar School, Ibadan, Nigeria, Mathematics Teacher, Head of Mathematics Department, and Senior House Master, 1977-1981.

Nigerian Television Authority Ibadan, Mathematics by Television Teacher, "Mathematics by Television" a weekly television program aimed at high school students and teachers, sponsored by Nigerian Television Authority and Ministry of Education, Ibadan 1979-1981.

Konongo-Odumase Secondary School, Konongo, Ghana, Mathematics Teacher, 1975-1977.

Published Articles

Refereed scholarly articles and reports

Park, S., Oliver, J. S., Johnson, T. S., Graham, P., & Oppong, N. (2007). Colleagues' roles in the professional development of teachers: The results of National Board for Professional Teaching Standards research project. *Teaching and Teacher Education*, 23, 368-389.

Reed, R.J & Oppong, N. (2005). NBCTs interpretation of what it means to be equitable teachers of diverse student populations. *The Mathematics Educator Monograph 1*(1). 1-14.

Johnson, T. S., Bruce, M., Graham, P., Oliver, S., Oppong, N., & Park, S. (2005). Giving Tree teachers: Women and the National Board certification process. *Feminist Teacher*, 15(3).

Johnson, T. S., Bruce, M., Graham, P., Oliver, S., Oppong, N., Park, S., & Mansberger, D. (2005). Giving Tree teachers: Women and the National Board certification process. *Feminist Teacher*, 15(3).

Oppong, N. K. (2002). A framework for posing technology-rich mathematics problems. *Proceedings of the Psychology of Mathematics Education – North America, Chapter, 3*, 1375-1378.

Oppong, N.K., & Leatham, K. (2000) Experiencing a technology-rich mathematics classroom from a distance: What middle school preservice teachers Learned: Psychology of Mathematics Education – North America Chapter.

Oppong, N.K. & Russell, A. (1998). Promoting critical thinking in pre-service teachers by using combinations of software. *Mathematics and Computer Education*. 32(1), 37-43.

Oppong, N.K., Gootman, E. & Beckmann, S. (1997). A technology-based exploratory course in geometry for middle school teachers. *Journal of Computing in Teacher Education*, 14, (1), 16-20.

Oppong, N.K. (1997). Construction and investigations of Golden Trapezoids. *Mathematics and Computer Education*. 31(3), 230-236.

Oppong, N. K. (1996). Creating a mathematics education virtual classroom. *The Mathematics Educator*, 7(1), 2-3.

Oppong, N. K. (1995). POWER 2000: Integrating computer technology in the mathematics instruction of middle school students. *Center for Urban Educational Research and Development (CUERD) Report*, 4(1), 11.

Oppong, N. K. (1991). The Mathematics Educator is born. *The Mathematics Educator*. Summer 1991.

Books

Olive, J., & Oppong, N. K. (In Revision). *Transforming Geometry with the Geometer's Sketchpad*. Emeryville, California: Key College Publishing.

Usiskin, Z., Highstone, V., Hirschhorn, D., Lewellen, H., & Oppong, N. (1997). *Geometry- Students' text* (Second edition). Chicago: University of Chicago School Mathematics Project, a Scott Foresman Series.

Usiskin, Z., Highstone, V., Hirschhorn, D., Lewellen, H., & Oppong, N. (1997) *Geometry- Teachers' Edition, Assessment Manual, and Technology Manual* (Second edition). Chicago: University of Chicago School Mathematics Project, a Scott Foresman Series.

Selected Other publications

Oppong, N.K. (1996). Creating a mathematics education virtual classroom-*The Mathematics educator*.

Oppong, N. K. (1991). Editorial. *The Mathematics Educator*. Summer 1991.

Oppong, N. K. (1991). *Teaching and Students' Notes for Applications-A Middle School Teacher Education Course Material*. University of Georgia. Development of text was supported by the Georgia Middle School and Mathematics Teacher Education Project, A National Science Foundation supported project.

Oppong, N. K. (1990). *Teaching and Students' Notes for Geometry-A Middle School Teacher Education Course Material*. University of Georgia. Development of text was supported by the Georgia Middle School and Mathematics Teacher Education Project, A National Science Foundation supported project.

Oppong, N. K. (1989). *Teaching and Students' Notes for Basic Ideas of Arithmetic-A Middle School Teacher Education Course Material*. University of Georgia. Development of text was supported by the Georgia Middle School and Mathematics Teacher Education Project, A National Science Foundation supported project.

Grants or contracts received:

An Interdisciplinary of three educational researchers and teacher educators in secondary English Language Arts, Mathematics and Science with a strong interest in teachers' professional development and change. Co-Principal Investigator . National Board for Professional Teaching Standards, 2000-2005, \$382,695.

The Virtual Mentor Program (ViMP): Mentoring Pre-service Teachers From A Distance, Eisenhower Program for the Improving Mathematics and Science Instruction Grant, \$34,000, March 2000 to June 2000.

Culture of Excellence in Teaching Mathematics Program (CETMP), Board of Regents of the University System of Georgia - Georgia Teacher Quality: Middle Grades Math and Science Initiative, \$25,000, May 2000 to December 2000.

Modeling the Role of Electronic Communications Technology in Pre-service Middle School Mathematics Teacher Preparation, Eisenhower Program for the Improving Mathematics and Science Instruction, \$37,030, March 1999 to June 2000.

Co-Principal Investigator (PI: Dr. James W. Wilson), (6/96-8/97). *Project MTP²: Mathematics Teacher Power Page- A Mathematics Education Virtual Classroom*. An Eisenhower Grant. (\$34,735).

Principal Investigator (Co-PI's: Dr. Elliot Gootman & Dr. Sybilla Beckmann-Kazez), (6/96-6/97). *A Technology-Based Exploratory Course in Geometry for Middle School Teachers*. The Board of Regents of the University System of Georgia Grant. (\$19,972).

Co-Principal Investigator (PI: Dr. Elliot Gootman), (1/97-8/98). *Mathematics And Machines-An Exploratory Module For Middle School Teachers*. An Eisenhower Grant. (\$24,000).

Principal Investigator, (8/94-6/95). *Effective Use Of Computers In The Education Of Youth*. Funded by UIC Center for Urban Educational Research and Development. (\$10,000)

Principal Investigator, (8/94-6/95). *Integrating Technology in the Mathematics Programs of the Nation of Tomorrow (TNT) Schools*. Funded Kellogg Foundation through The Center for Urban Educational Research and Development. (\$31,000)

Principal Investigator, (Co-PI's: Dr. M. Parker, Dr. E. Smith, and Dr. M. Varelas), (January 1994). *CRB Competition for Research Equipment Grant..* University of Illinois at Chicago. (\$28,173).

Principal Investigator, (8/94-6/95). *STUDYING POWER 2000: Effective Use Of Computers In The Education Of Youth*. Funded by UIC Center for Urban Educational Research and Development CUERD). (\$8,900).

Creative activities:

I have developed the following mathematical terminologies, and proved related theorems-This original work has been accepted for publication:

Golden Parallelogram: A Golden Parallelogram is a parallelogram with adjacent sides in the Golden Ratio.

Golden-O Trapezoid: A Golden-O Trapezoid is a trapezoid with the ratio of both pairs of the opposite sides equal to the Golden Ratio. The diagonals of the Golden-O Trapezoid bisect each other in the Golden ratio.

Golden-A Trapezoid: A Golden-A Trapezoid is a trapezoid with the ratio of the longest of the parallel sides and the longest of the legs, and also the ratio of the shortest of the parallel sides and the shortest of the legs is the Golden Ratio.

Super Golden Trapezoid: A Super Golden Trapezoid is both Golden-O and Golden-A.

Designed EMAT 2000 (Foundations of Mathematics Education). Emphasized the role of mathematics in society; contemporary issues in mathematics education; role of professional mathematics educator, including ethical and effective

practice; social, historical, and philosophical perspectives and methods of inquiry in analysis of mathematics education issues; and sociological and psychological bases for learning mathematics. The course also focuses on ways in which technology is used in teaching mathematics.

Redesigned EMAT 5290/7290 (Teaching Geometry in the Middle Grades). Technology was infused in all aspects of the course. Students used electronic communication technology such as e-mail and web pages as a means for communication. Exploration tools such as Spreadsheet, GSP and Cabri were used to investigate Geometry.

Redesigned EMAT 4680 (Technology and Secondary School Mathematics). Emphasize was placed on Geometry. Students used electronic communication technology such as e-mail and web pages as a means for communication. Exploration tools such as Spreadsheet, GSP and Cabri were used to investigate Geometry.

Support Specialist in Mathematics - Providing a Framework for Improving Mathematics Teaching in Georgia. I designed and taught the Teacher Support Specialist course to prepare experienced teachers to provide support and guidance to student teachers, beginning teachers, and to their colleagues in peer coaching relationships.

Additional Evidence of Intellectual Leadership:

Papers presented at professional and learned societies:

Oppong, N. (April, 2006). *Posing, Solving, Extending and Assessing Technology-Rich Problems*. Paper presented at the National Council of Teachers of Mathematics (NCTM) Annual Conference, St. Louis, MO.

Oliver, S. & Oppong, N. (April, 2005). *Mathematics, science and English language arts as formative factors in teaching*. Paper presented at the American Education Research Association (AERA), Montreal, Canada.

Reed, J. & Oppong, N. (April, 2005). *Student diversity, teacher goals, and National Board Certification*. Paper presented at the American Educational Research Association (AERA), Montreal, Canada.

Oppong, N. & Reed, J. (February, 2005). *Case study: Examining the structure of a mathematics teacher's assignments*. Paper presented at American Association of Colleges of Teacher Education (AACTE), Washington, DC.

Oliver, J. S., Graham, P., Oppong, N., & Smith, T. W., (2004, January). *Creating a hybrid instrument to examine student accomplishment of content*

specific understanding. Presented at American Association for Colleges of Teacher Education, Chicago, IL.

Oppong, N.K., Gootman, E, & Beckmann-Kazez, S. (1997, March). *A Technology-Based Exploratory Course in Geometry for Middle School Teachers*. Regional Meeting of the Mathematics Association of America, Atlanta.

Oppong N. (1996, November). *The role of technology in Mathematics Education: The case of the biggest box problem*. Paper presented at Savannah State University, Savannah GA.

Oppong N. K. (1995, November). *The role of technology in UCSMP textbooks*. UCSMP National Users' Conference, University of Chicago.

Oppong, N.K. (1995, November). *My experience as a learner of mathematics..* UGA-MESA Colloquium-Discussant.

Oppong, N.K. (1995, November). *The Middle Grades Mathematics Content and Methods of Teaching*. Jackson County Middle School Mathematics Teachers' Inservice

Oppong, N. K. (April, 1995). *Integrating Computer Technology in Mathematics Instruction in the Middle Grades*. 73rd Annual Meeting of the National Council of Teachers of Mathematics, Boston, Massachusetts.

Oppong, N. K. (January, 1995). *Technology and Gender Equity in Teaching Mathematics in City Schools*. Math and Science 2000: Equity and Excellence. Sponsored by Chicago Urban League, UIC Center for Research on Women and Gender, and US Department of Education Office for Civil Rights, Chicago, IL.

Oppong, N. K. (1995, January). *Mathematics Clubs: Providing Chicago Public School Sub-District 4 Students Meaningful Friendship Group*. Sponsored by Chicago Systemic Initiative and CPS Sub-District 4.

Oppong, N. K. (1993, October). *Using Technology to Investigate the Properties of Non-symmetric Figures that Exhibit the Golden Relation: The Case of the Super Golden Trapezoid*. An invitation to speak at the 45th Annual Meeting of the Illinois Council of Teachers of Mathematics, Springfield, Illinois.

Oppong, N. K. (1993, February). *The Biggest Box Problem: Technology at Its Best*. Presentation at the College Preparatory Mathematics Program: Success for Everyone Conference, Chicago, Illinois.

Oppong, N. K. (1992, October). *Creating and Appreciating Mathematics:*

The Case of the Golden Ratio. Presentation at the Annual Meeting of the Georgia Council of Teachers of Mathematics (GCTM), Rock Eagle, Georgia.

Oppong, N. K. (1992, October). *Mathematics Generalizations That High School Students Make During Problem Solving.* Presentation at a colloquium sponsored by the Mathematics Education Students Association of The University of Georgia.

Cooney, T. J., Oppong, N. K., Shealy, B., & Zhen, T. (1992, October). *Integrating Content and Pedagogy: A Project for Pre-service Elementary Teachers in Mathematics.* Presentation at the Annual Meeting of GCTM, Rock Eagle, Georgia.

Oppong, N. K. & Hau, S. (1991, October). *Geometric Activities and Applications of Fibonacci Numbers.* Presentation at the Annual Meeting of GCTM, Rock Eagle, Georgia.

Service as an editor, member of an editorial board, or as a referee for a scholarly journal; other editorial work:

Editor, *The Mathematics Educator*, 1990-91.

Referee, *Journal for Research in Mathematics Education*, 2001-present.

Referee, *Journal of Mathematics Teacher Education*, 1996–2002.

Referee, North America-Psychology of Mathematics Education, 1995–2002

Referee, *Journal of Women and Minorities in Science and Engineering*, 2005 – present.

Service as a referee or member of advisory panel for a federal, state, or private agency allocating research funds:

Reviewer, Eisenhower/Teacher Quality Grant Proposals, 1996-2003.

5. Special honors received for academic achievement:

University of Georgia Graduate School Outstanding Teaching and Research Award, University of Georgia, 1990.

University of Georgia Outstanding Teaching and Research Award, University of Georgia, 1992.

Service on important extra-university, professional committees:

Member, Gwinnett County Public Schools-GSMST AKS Writing Team, 2007.

Examiner, NCATE/PSC team that conducted onsite visit at Clark Atlanta University to Review Teacher Education Program, 2006.

Examiner, NCATE/PSC team that conducted onsite visit at Clayton State University to Review Teacher Education Program, 2005.

Examiner, NCATE/PSC team that conducted onsite visit at Fort Valley State University to Review Teacher Education Program, 2006.

Consultant, NCATE Program Review, Mathematics Department, University of Southern Mississippi, 2005-2006.

Member, P-16 Action Commission on Co-reform, 1996-2002.

Service on university, college and department committees:

Member, PRISM Mathematics Curriculum Team, 2007.

Member, COE Recruitment and Retention Team, 2007.

Member, COE Curriculum Diversity Action Team, 2007.

Member, UGA Study Abroad Program in Ghana, 2007.

Member, University of Georgia Program Review and Assessment Committee, 2006 – present.

Member, College of Education NCATE Leadership Team, 2004-2006.

Member, College of Education Faculty Senate, 2004-2007.

Member, College of Education Faculty Senate Nominating Committee, 2005-2006.

Member, Mathematics Education Secondary Program Committee, 1996-present.

Member, Elementary Education Head Search Committee, 2005.

Chair, Post Tenure Review Of Dr. Larry L. Hatfield, 2003.

Member, Post Tenure Review Of Dr. Thomas R. Koballa, 2005.

Member, LPSL Faculty, 9/95-2002.

Member, African Studies Faculty, 1996 to date.

Experience with Graduate Education

Dissertations directed in the past seven years. Give name of student, granting university, and year degree was received:

Kedrick Hartfield, University of Georgia, 2003.

Behnaz Rouhani, University of Georgia, 2004.

Service on student advising, examining, and reading committees

Served on 8 doctoral committees in mathematics education in past 7 years.

Advisor to M. Ed. and Ed. S. students each year.

Major professor for 2 students who have finished in the past 7 years.

Major professor for two students currently in progress.

Graduate courses taught in the past seven years.

EMAT 6600 Problem Solving in Mathematics
EMAT 7050. Teaching Secondary School Mathematics
EMAT 7200. Mentoring in Mathematics Education
EMAT 7290. Teaching Geometry and Measurement in the Middle
EMAT 7280. Teaching Number Systems in the Middle
EMAT 6990/8990 Research in Mathematics Education

Independent studies supervised:

EMAT 6000 Special Problem in Mathematics Education
EMAT 7700 Internship in Mathematics Teaching
EMAT 7650 Applied Project in Mathematics Education
EMAT 9600 Research in Mathematics Education
EMAT 9700 Internship in Mathematics Education
EMAT 9800 Practicum in Mathematics Education

Effectiveness and quality of mentoring

a. I served as a mentor to four graduate students from higher institutions in South Africa to help them develop their research proposals and review papers for them. In addition to my role as an advisor to students, I have invited students (outside their usual assistantship assignments) to join me on research projects to provide further help to them in the area of data collection and analysis. I have visited graduate students teaching in high school to provide support and guidance. I have invited graduate students to join me as I edit and publish the *Journal of African Education* to give them experience with publication process.

Served as external examiner for theses - University of the Witwatersrand in South Africa

Served as a mentor in the Minority Undergraduate Research Program in Mathematics and the Natural Sciences sponsored by the UGA Graduate School.