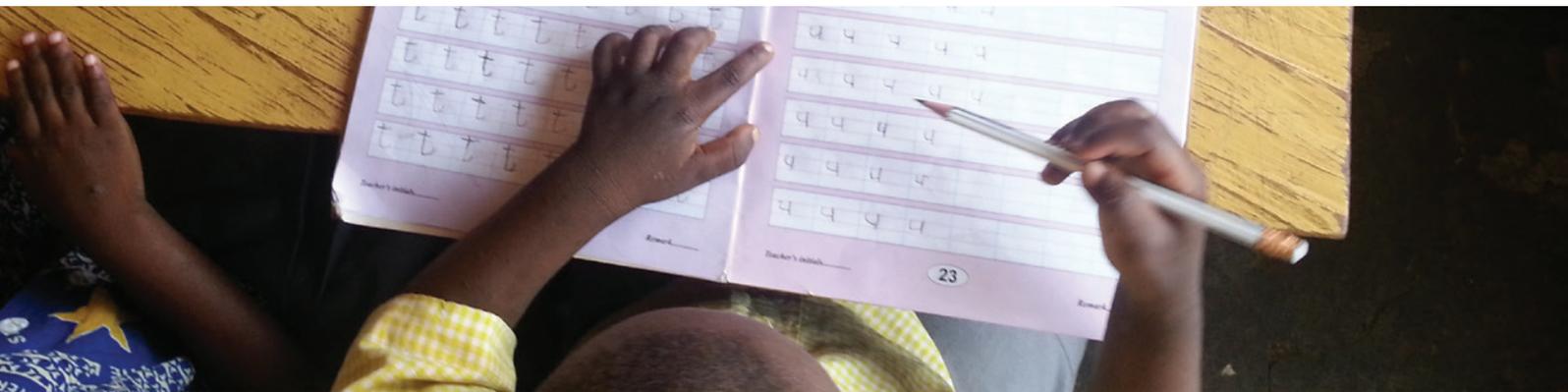




Ministry of Education
REPUBLIC OF GHANA



Ghana Education Evidence Summit

Towards Quality Education in Ghana:
Using Evidence to Achieve Better Learning Outcomes

28 March 2017 | Accra, Ghana

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Quick Agenda

TIME	ACTIVITY
8:30AM-9:00AM	Registration
9:00AM-9:20AM	Welcoming Address and Introduction of Summit Chair
9:20AM-10:30AM	Key Speakers
10:30AM-10:45AM	Declaration/Opening of Ghana Education Evidence Summit
10:45AM-11:15AM	Group Photos and Snack Break
11:20AM-12:05PM	Panel Presentations—Round 1
12:10PM-12:55PM	Panel Presentations—Round 2
1:00PM-2:00PM	Lunch
2:05PM-2:50PM	Panel Presentations—Round 3
3:00PM-3:25PM	Evidence-Informed Policymaking: What Does It Entail?
3:30PM-4:30PM	Panel Discussion: From Evidence to Policy: What Experience Can We Draw On for Ghana?
4:30PM-4:45PM	Closing Remarks by Summit Chair
5:00PM-7:00PM	Cocktail Reception and Networking

Welcome Note from Minister of Education, Ghana

Dear Conference Participants,

It gives me great pleasure to be able to welcome you to this maiden Ghana Education Evidence Summit. You are here from a wide range of backgrounds with varied experiences of working in the education sector in Ghana, and this diversity is both valuable and exciting. I am sure you will agree with me that education is a cornerstone of development for any nation—but to ensure we deliver good-quality education to all of Ghana's children, we have to understand what works. This leads us to the vital role of research and the effective engagement of government with the research community to ensure policymaking is based on the best evidence available.

This summit forms part of the Research Agenda for the Secondary Education Improvement Project (SEIP). The SEIP is a five-year project which aims to increase access to senior secondary education in underserved districts and improve quality in low-performing senior high schools in Ghana.

Within this project, the Research Agenda seeks to further our understanding of the barriers to equitable quality secondary education, with a particular focus on improving outcomes in science and mathematics, improving quality teaching, and improving the management efficiency of education.

The ministry's commitment to taking ownership of our research agendas is not limited to the secondary level. At the basic level, the inception of the Basic Education Research Group and associated Agenda, coupled with our commitment to capacity development of staff, is proof of our ambition to inform policy decisions with a strong evidence base.

It is the drive to be informed and to use that knowledge well that brings us together here to discuss, debate, and share expertise, and so improve the future for every Ghanaian child. I would like to take this opportunity to thank Innovations for Poverty Action (IPA) for their collaboration

in making this summit possible. Finally, I hope and expect that you will all benefit from fruitful discussions at this summit and I would like to thank you very much for your participation.

Yours sincerely,

Dr. Matthew Opoku Prempeh
Honourable Minister for Education



Welcome Note from Executive Director, Innovations for Poverty Action

A Message from IPA

Welcome to this milestone event. The 2017 Ghana Education Evidence Summit is the result of the hard work of the policymakers, educators, researchers, nonprofits, and foundations who together strive to advance education in Ghana.

This summit is both a chance to learn from this remarkable work as well as the start of the next phase of research and policy advocacy. The current body of rigorous evidence is impressive; the cooperation of educators, policymakers, and researchers has already answered crucial education policy questions. We hope the summit presentations inspire and inform you—but they will also surely increase your appetite for evidence to inform policymaking and education decisions.

IPA is excited for this opportunity to incorporate existing rigorous evidence into policy, and to produce a new round of research that answers pressing questions for Ghana's educators and policymakers. What are the most effective ways to keep students in school? How can we help children

arrive at primary school with the skills they need to succeed? How can classroom quality improve? What are the most effective—and cost-effective—methods for training teachers?

We remain thankful for the leadership and collaboration of the Ministry of Education and the Ghana Education Service, and we thank all the summit participants who have traveled from near and far to be here this week. Welcome, and we look forward to productive and engaging discussions.

Sincerely,

Ms. Annie Duflo
*Executive Director,
Innovations for Poverty Action*



Welcome Note from Summit Coordinator

Ghana Education Evidence Summit: The Journey So Far

The 2017 Ghana Education Evidence Summit (GEES) is the first in the annals of the Ministry of Education (MoE) and the Ghana Education Service (GES). It started as an ambition to bring together research and policymakers so that education policy in Ghana could be founded on the best evidence available. Today that ambition can be realised.

This summit is part of a much broader research agenda which forms one element of the Secondary Education Improvement Project (SEIP). The SEIP is a five-year project with the objective to increase access to senior secondary education in underserved districts and improve quality in low-performing senior high schools in Ghana.

The project has two broad components. The first component seeks to increase access with equity and quality in senior high schools. The second component promotes management, research, and monitoring and evaluation, in addition to strengthening the implementation capacities of MoE/GES.

The funding of a research agenda under the SEIP supports a programme of work with the following objectives:

- » To address strategic issues in line with the Government's secondary education programme;
- » To contribute to building education sector performance monitoring capacities;
- » To contribute to evidence-informed policymaking.

In order to achieve these objectives, a strong emphasis is being placed on collaborating with research institutions to bridge the research-policy gap. For this year's summit, we are particularly interested in sharing evidence from empirical research conducted in Ghana for which results are available. In the process of selecting papers, we placed a premium on research with rigorous methods, where the evidence has policy relevance and lessons can be drawn for the whole system.

This year's summit was organized in collaboration with Innovations for Poverty Action (IPA). From its conceptualization through the planning process, much work has gone into putting the summit together. In planning this summit, we have come to realize the need for more collaboration between policymakers and researchers to ensure that the research being conducted is testing solutions that could usefully inform our education policy in Ghana. We therefore expect this to be an annual summit in order to provide the platform for researchers to share research in education, especially where conducted in Ghana.

We are grateful to the Hon. Minister and Chief Director for their support. We also appreciate all who responded to the Call for Papers. We thank the SEIP Research Team for

their key role in providing direction during the preparatory stages. Finally, to the planning committee and the many other people who have played several roles, big and small, we say *Ayeeko!*

Sincerely,

Mrs. Cynthia Bosumtwi-Sam
Team Leader, SEIP Research Agenda



About the Organisers



Ministry of Education
REPUBLIC OF GHANA

About Ministry of Education

The Ministry of Education was established under the Civil Service Law 327 and under the PNDC Law 1993 with the mandate to provide relevant education to all Ghanaians. The Ministry is committed to putting in place an education system focused on promoting creativity and problem-solving through the development of academic, technical, and vocational programmes that will improve the acquisition of skills and assure job-market readiness.

Vision

To provide relevant education to all Ghanaians at all levels to enable them to acquire skills that will assist them to develop their potential in order to be productive; to promote a technology culture at all levels of society to facilitate poverty reduction and promote socio-economic growth and national development.

Mission

To formulate and implement policies that will ensure quality and accessible education for all Ghanaians with requisite skills to achieve human development, good health, poverty reduction, national integration, and international recognition.



About Ghana Education Service

The Ghana Education Service (GES) is the largest agency of the Ministry of Education and is responsible for implementing pre-tertiary education. It operates through a decentralized system of regional and district education offices which provide districts with a degree of autonomy, enabling them to respond to local factors and situations.

Vision

Create an education system in which every Ghanaian child has the opportunity to meet their full potential and acquire the relevant skills to contribute to the development of the nation and the world and make Ghana globally competitive.

Mission

To ensure that all school-age Ghanaian children are provided with quality formal education and training through effective and efficient resource management that will facilitate making education delivery relevant to the socio-economic needs of the nation.

About IPA Ghana

Innovations for Poverty Action (IPA) designs and implements randomized evaluations to measure the effectiveness of programs and policies aimed at helping the poor. IPA partners with researchers, government, donors, and practitioners to understand what evidence exists and discover ways it can be translated to influence policy decisions and program design.

From the impact of targeted instruction on basic skills acquisition in primary schools to a ten-year longitudinal study on returns to secondary education, IPA's education work over the years in Ghana seeks to provide valuable insight into how decision-makers can make the best use of limited resources for better learning outcomes.

Vision

More evidence, less poverty

Mission

To discover and promote effective solutions to global poverty problems

Background to the Summit

Introduction

Better utilization of evidence in policy and practice can improve learning outcomes.

In the last decade, rigorous field research has yielded a number of important lessons on how to improve learning outcomes. However, existing evidence and its implications for policy decisions are not always readily known among policymakers and practitioners. **Meaningful engagement between researchers and policymakers remains limited.** As Ghana strives to improve efficiency and enhance quality education delivery, fostering dialogue between researchers and policymakers is critical.

The Ghana Education Evidence Summit brings together policymakers, researchers, and practitioners to:

- a) share evidence that has been collected about education in Ghana;
- b) identify ways in which evidence can be used for better decision-making; and
- c) develop a research agenda to fill the gaps in the existing evidence.

Background

Given the present fiscal environment, in which policymakers face tough budgetary and policy choices that affect what they can deliver to citizens, using evidence to inform decisions is not a choice, but a necessity. To attain maximum return on investment, policies must be based on rigorous research.

Ghana, like many other countries in sub-Saharan Africa, has made significant progress in terms of access to schooling over the last decades. However, systemic concerns such as low learning levels, teacher absenteeism, low time on task, and inadequate resources remain. The Ministry of Education and Ghana Education Service (MoE/GES) remains committed to dealing with these challenges, particularly to increasing teacher motivation and improving learning outcomes in Ghanaian schools. The MoE/GES formulates policies and liaises with a broad range of actors including donors and civil society organisations to design and implement interventions that support these goals.

The United Nations' declaration *Transforming our world: the 2030 Agenda for Sustainable Development* includes education as one of its key priorities and stresses the need to ensure

an inclusive, equitable, and high-quality education for all. To this end, the MoE/GES, in collaboration with various partners, has been working on several major programs. These interventions demonstrate the Government of Ghana's steadfast commitment to: enhancing teacher education and learning; improving access to and quality of senior high schools; improving early grade reading; mainstreaming out-of-school children; and implementing more efficient management systems in schools.

To attain optimal return on such major investments, it is critical to create a platform where policy decision-makers, practitioners, and program implementing organizations interact with researchers to drive evidence-based policy decisions and program designs for better outcomes.

Summit Structure and Goals

The Ghana Education Evidence Summit seeks to bring research to the fore to address knowledge gaps in existing evidence and its policy implications. The event features plenary and panel presentations, roundtable discussions, and workshops to share knowledge on existing evidence, develop skills for identifying quality research, promote evidence-based policy decisions, and develop a research agenda for the education system in Ghana.

The specific goals of the summit are to:

- » **Share results of high-quality research** from practitioners, researchers, and academics doing work in Ghana
- » **Develop skills for assessing research quality** and understanding the implications of research on decision-making
- » Conduct a gap mapping exercise which will feed into **the creation of a research agenda** for basic and secondary education delivery in Ghana
- » Lay the groundwork for **an evidence-sharing space** through an online platform on the MoE/GES website

Summit Programme: Full Agenda

TIME	ACTIVITY
8:30AM-9:00AM	Registration
9:00AM-9:10AM	Welcoming Address Mr. Enoch Cobbinah, Chief Director, Ministry of Education
9:10AM-9:20AM	Introduction of Summit Chair Prof. Jophus Anamuah-Mensah
9:20AM-9:40AM	"The State of Evidence in Education Globally" Prof. Esther Duflo, Director, Abdul Latif Jameel Poverty Action Lab (J-PAL)
9:40AM-10:20AM	Key Speaker for the Summit: "Towards Quality Education in Ghana: Using Evidence to Achieve Better Learning Outcomes" Prof. Joseph Ghartey Ampiah, Vice Chancellor of University of Cape Coast
10:20AM-10:30AM	Interlude
10:30AM-10:45AM	Declaration/Opening of Ghana Education Evidence Summit Dr. Matthew Opoku Prempeh, Honourable Minister for Education
10:45AM-11:15AM	Group Photographs and Snack Break

TIME	ACTIVITY
11:20AM-12:05PM	PANEL PRESENTATIONS – ROUND 1 Panel A: Secondary Education Ridge Arena <ul style="list-style-type: none"> » <i>The Importance of Information Targeting for School Choice Decisions, Dr. Adrienne Lucas</i> » <i>The Impact of Free Secondary Education: Experimental Evidence from Ghana, Prof. Esther Duflo</i> Panel B: Basic Education Botsio Auditorium <ul style="list-style-type: none"> » <i>Quality Preschool for Ghana: Developing, testing and scaling-up supply- and demand-side interventions to improve Kindergarten education in Ghana, Dr. Sharon Wolf</i> » <i>Predictors and Implementation Rates of Policy Guidelines for School Level Health Services Delivery and Water, Hygiene and Sanitation Among Primary and Secondary Schools in Ghana, Dr. Andrew Owusu</i>
	PANEL PRESENTATIONS – ROUND 2 Panel A: Improving Educational Outcomes Ridge Arena <ul style="list-style-type: none"> » <i>Effectiveness of Interactive Distance Instruction: Experimental Evidence from Ghanaian Primary Schools, Ms. Jamie Johnston</i> » <i>Adapting and Evaluating Targeted Instruction Approaches into a New Context through a Nationwide Randomized Experiment in Ghana, Ms. Annie Duflo</i> Panel B: Social Interventions Botsio Auditorium <ul style="list-style-type: none"> » <i>Reaching the Poor or the "Well-Connected"? School Targeting and Selection Dynamics under the Ghana School Feeding Programme, Dr. Gabriel Botchwey</i> » <i>Evaluation of alternative school feeding models on children's educational outcomes: preliminary findings from a cluster randomised control trial, Dr. Clement Adamba</i>
12:10PM-12:55PM	

TIME	ACTIVITY
1:00PM-2:00PM	Lunch
2:05PM-2:50PM	<p>PANEL PRESENTATIONS – ROUND 3</p> <p>Panel A: Maths Education Ridge Arena</p> <ul style="list-style-type: none"> » <i>Using Hierarchical Linear modeling to examine attitudinal and instructional variables that predict students' achievement in mathematics, Dr. Paul Butakor</i> » <i>Pupils' Understanding of Multiplication and Division in Multiple Contexts, Prof. Jonathan Fletcher & Mr. Stephen Baidoo</i> <p>Panel B: Private Sector Involvement in Education Botsio Auditorium</p> <ul style="list-style-type: none"> » <i>Understanding Household and School Proprietor Needs in Low-Fee Private Schools in Ghana, Mr. Arjun Upadhyay & Mr. Robert Francis</i> » <i>The Role of the Private Sector in Providing Basic Education Services in Ghana: An In-Depth Report, Ms. Oni Lusk-Stover</i>
3:00PM-3:25PM	Evidence-Informed Policymaking: What Does It Entail?
3:30PM-4:30PM	<p>Panel Discussion: "From Evidence to Policy: What Experience Can We Draw On for Ghana?"</p> <p>Moderator: Mrs. Eunice Yaa Brimfah Ackwerh, World Bank, Accra, Ghana</p> <p>Panelists:</p> <ul style="list-style-type: none"> » Mrs. Cynthia Bosumtwi-Sam, Ghana Education Service » Dr. James Dobson, Education Office Director, USAID Ghana » Prof. Jonathan Fletcher, Dean, School of Education and Leadership, University of Ghana, Legon » Ms. Heidi McAnnally-Linz, Associate Director of Policy & Communications, Innovations for Poverty Action

TIME	ACTIVITY
4:30PM-4:45PM	Closing Remarks by Summit Chair Prof. Jophus Anamuah-Mensah
4:45PM	Closing
5:00PM-7:00PM	Cocktail Reception and Networking



Structure of Panel Presentations

There are 3 rounds of panel presentations. Each round contains 2 panels (A and B). Participants are required to choose to attend one panel spanning 45 minutes in each round. **There is a scheduled 05 minutes break in the program between sessions to allow participants to move between panels. Please be aware of the starting time for the next session.**

Panel Presentations: Round 1

Time: 11:20AM-12:05PM

PANEL	PAPER TITLE	PRESENTER	PANEL CHAIR	VENUE
Panel A: Secondary Education	<i>The Importance of Information Targeting for School Choice Decisions</i>	Dr. Adrienne Lucas	Dr. Dorothy Glover Head of Quality and Outcomes for the Secondary Education Improvement Project, MoE/GES	Ridge Arena
	<i>The Impact of Free Secondary Education: Experimental Evidence from Ghana</i>	Prof. Esther Duflo		
Panel B: Basic Education	<i>Quality Preschool for Ghana: Developing, testing and scaling-up supply- and demand-side interventions to improve Kindergarten education in Ghana</i>	Dr. Sharon Wolf	Mr. Akwasi Addae-Boahene National Programme Manager, T-TEL (Transforming Teacher Education and Learning)	Botsio Auditorium
	<i>Predictors and Implementation Rates of Policy Guidelines for School Level Health Services Delivery and Water, Hygiene and Sanitation Among Primary and Secondary Schools in Ghana</i>	Dr. Andrew Owusu		

Panel Presentations: Round 2

Time: 12:10PM-12:55PM

PANEL	PAPER TITLE	PRESENTER	PANEL CHAIR	VENUE
Panel A: Improving Educational Outcomes	<i>Effectiveness of Interactive Distance Instruction: Experimental Evidence from Ghanaian Primary Schools</i>	Ms. Jamie Johnston	Prof. Eric Magnus Wilmot Provost of College of Education Studies, University of Cape Coast	Ridge Arena
	<i>Adapting and Evaluating Targeted Instruction Approaches into a New Context through a Nationwide Randomized Experiment in Ghana</i>	Ms. Annie Duflo		
Panel B: Social Interventions	<i>Reaching the Poor or the "Well-Connected"? School Targeting and Selection Dynamics under the Ghana School Feeding Programme</i>	Dr. Gabriel Botchwey	Prof. Francis Amedahe Professor of Education Assessment / Measurement, University of Cape Coast	Botsio Auditorium
	<i>Evaluation of alternative school feeding models on children's educational outcomes: preliminary findings from a cluster randomised control trial</i>	Dr. Clement Adamba		

Panel Presentations: Round 3

Time: 2:05PM-2:50PM

PANEL	PAPER TITLE	PRESENTER	PANEL CHAIR	VENUE
Panel A: Maths Education	<i>Using Hierarchical Linear modeling to examine attitudinal and instructional variables that predict students' achievement in mathematics</i>	Dr. Paul Butakor	Dr. Evelyn Oduro Director, Teacher Education Division, GES	Ridge Arena
	<i>Pupils' Understanding of Multiplication and Division in Multiple Contexts</i>	Prof. Jonathan Fletcher & Mr. Stephen Baidoo		
Panel B: Private Sector Involvement in Education	<i>Understanding Household and School Proprietor Needs in Low-Fee Private Schools in Ghana</i>	Mr. Arjun Upadhyay & Mr. Robert Francis	Very Rev. Sam Nii Nmai Ollenu Head of National Office, West African Examination Council (WAEC)	Botsio Auditorium
	<i>The Role of the Private Sector in Providing Basic Education Services in Ghana: An In-Depth Report</i>	Ms. Oni Lusk-Stover		



Biographies and Abstracts

KEY SPEAKERS

Please see page 27 for information about featured speaker Prof. Esther Duflo.



Dr. Matthew Opoku Prempeh
Honourable Minister for Education

Dr. Matthew Opoku Prempeh is the honourable Minister for Education of the Republic of Ghana, sworn in to this post on 27 January 2017 by His Excellency President Nana Akufo-Addo. He has served as a Member of Parliament since 2009, currently for Manhyia South Constituency and previously for Manhyia Constituency, Ashanti region. As a Member of Parliament, he has served on committees such as Health, Appointments, Special Budget, and Environment, Science, Technology and Innovation.

Dr. Prempeh is a qualified medical doctor and surgeon. He studied Human Biology and Medicine at the Kwame Nkrumah University of Science and Technology (BSc) and gained his Master's Degree in Clinical Epidemiology from the Netherlands Institute of Health Sciences (MSc). He furthered his studies at the Kennedy School of Government, Harvard University, where he studied Leadership and Government.

Dr. Prempeh has worked as a Medical Doctor in Ghana and the United Kingdom. He is a Surgeon and a member of the Royal College of Physicians and Surgeons of the United Kingdom. He was the CEO of Keyedmap Services Limited before being elected a Member of Parliament.



Mr. Enoch H. Cobbinah
Chief Director, Ministry of Education

Mr. Enoch H. Cobbinah is the Chief Director of the Ministry of Education. As the bureaucratic head of the Ministry, he is the chief adviser to the Minister and has oversight and responsibility for the activities of the Directors and the functions of the Ministry. Mr. Cobbinah was previously Chief Director of the Ministry of Finance and Economic Planning, where he headed the Non-Tax Revenue Unit.

Mr. Cobbinah has vast experience in public financial management, especially in budget preparation and implementation. He played a key role in reforming the legal institutional and regulatory framework for improved public financial management in the late 1990s and early 2000s. Furthermore, he has played several leading roles in shaping government machinery and sits on the Governing Boards of the National Insurance Commission, the National Lotteries Authority, and the Central Tender Review Board. He has also served on a number of technical committees, including the Land Policy Steering Committee and Revenue Leakages Committee.

He holds a Master's Degree in Economics and Statistics from the Economics and Statistics Institute, Moscow and trained in Public Financial Management, Tax Policy, and Revenue Forecasting and Budgeting at Harvard and Duke Universities. Mr. Cobbinah is a devoted Christian, a pastor in Christ Vision Sanctuary, and Chairman of Council of the Church. He is married with two children.



Prof. Jophus Anamuah-Mensah
Summit Chair

Prof. Jophus Anamuah-Mensah is a former Dean of Education and Pro-Vice Chancellor of the University of Cape Coast, and a former Vice Chancellor of the University of Education, Winneba. He has many years of experience leading institutional reforms. At UEW, he strengthened teacher education in the country through the introduction of internship and mentorship programmes, and integration of technology in education. He established the Department of Early Childhood Education, the Department of Basic Education, and the National Centre for Research into Basic Education at UEW to improve the quality of basic education and provide an evidence base for educational policies. He was the chair of the committee that developed the framework for the 2008 educational reform. In addition, he has chaired a number of high-level educational committees, including one on sustainable funding of education, the open university of Ghana, and the development of national documents, including the 2016-2030 NESP report. Prof. Anamuah-Mensah is currently the executive chair of Teacher Education in sub-Saharan Africa, and Director of the Institute for Educational Research and Innovation Studies at UEW.



Prof. Joseph Gharthey Ampiah
Vice Chancellor of University of Cape Coast

Prof. Joseph Gharthey Ampiah is a Professor of Science Education at the University of Cape Coast, where he has been a lecturer in science education since 1996. He holds a BSc (Hons) in Chemistry and a Diploma in Education, MPhil in Science Education, and PhD in Science Education from the University of Cape Coast. He has risen through the ranks at the University, serving as Coordinator, Centre for Research into Quality of Primary Education, and Dean, Faculty of Education, among other positions. Prof. Ampiah has held positions as Visiting Research Fellow at the University of Sussex, Visiting Professor at Hiroshima University and Nagoya University in Japan, Famous Overseas Scholar at Hunan City University in China, and Australian Leadership Award Fellow at the University of Sydney, among other distinctions. He is a member of the Ghana Chemical Society, Ghana Science Association, and British Association for International and Comparative Education. Prof. Ampiah also previously served on the National Teaching Council, National Council on Tertiary Education, and National Accreditation Board in Ghana.

GHANA EDUCATION SERVICE (GES) MANAGEMENT



Mr. Jacob Kor
Director General, GES

Mr. Jacob Kor started teaching after attending Wesley College in Kumasi, Ghana. He has taught at several institutions in Ghana, including Holy Child Training College, Christ the King Catholic Secondary School, and Akrokerrri Training College. He also served as the Principal of Mount Mary College of Education. Mr. Kor's expertise in educational management and administration propelled him to become the Director of Education, Ahafo Ano North District and subsequently Director, Curriculum Research and Development Division (CRDD) of GES. He was previously the Central Regional Director of Education. He holds a Master's Degree in Education and Management, a Bachelor's Degree in Education, and a Diploma in Geography from the University of Cape Coast. He is currently pursuing a Doctorate in Philosophy and Education from the Open University of Malaysia. Mr. Kor is the author of *Life Skills for Senior High Schools* (1998), *Education Studies for Students in Teacher Training Colleges in the New Millennium* (2000), and *ICT Practicals for Practitioners* (2010). He co-authored *Strategic Planning in Education: A Case Study of Ashanti Regional Education Directorate* (2011).



Mrs. Felicia Boakye-Yiadom
Acting Deputy Director General (Q&A), GES

Mrs. Felicia Boakye-Yiadom is the Acting Deputy Director General and current Director of the Curriculum Research and Development Division, GES. She attended Ofori Panin Secondary School (GCE Ordinary Level Education) and Aburi Girls Secondary School (Advanced Level). She holds a BSc in Agriculture from the University of Cape Coast, a Diploma in Education and MPhil in Agricultural Education from the University of Ghana, and an MA in Curriculum, Pedagogy, and Assessment from the University of London. Mrs. Boakye-Yiadom also holds a Certificate in Environment Education from the Centre of Environment Education, Ahmedabad, India.

Mrs. Boakye-Yiadom has taught at the Okuapemman School and is currently the Director of its Curriculum Research and Development Division. She was the first District Director of Education for the Upper West Akim in the Eastern Region. She also served as the Regional Director of Education in the Greater Accra Region. Her favourite writing is *Dora is Growing Up*, published by Sedco.



Mrs. Cynthia Bosumtwi-Sam
Acting Deputy Director General (Management Services), GES

Mrs. Cynthia Bosumtwi-Sam began her career as a senior high school teacher. She has served in several capacities within the Ghana Education Service, including National Inspector of Schools, Director of the School Health Programme, and Municipal Director of Education. She is currently the Director of the Basic Education Division and the Acting Deputy Director General (Management Services).

Mrs. Bosumtwi-Sam obtained her Bachelor's degree with Honors and a Post-Graduate Certificate in Education from the University of Ghana. She also holds a Master's Degree in International Education and Development and a Post-Graduate Diploma in Leadership Development in ICT and the Knowledge Society from Dublin City University. Her research interests include policy implementation at the pre-tertiary level and youth behaviours and risk factors affecting adolescents. She has co-authored a number of articles, including *Peer Relations, Violence and School Attendance: Analyses of Bullying in Senior High Schools in Ghana* (Journal of Development Studies, 2013) and *School feeding and educational access in rural Ghana: Is poor targeting and delivery limiting impact?* (International Journal of Educational Development, 2013)

PANEL PRESENTATIONS

Round 1, Panel A | Secondary Education

Panel Chair



Dr. Dorothy Glover

Head of Quality and Outcomes for the Secondary Education Improvement Project, MoE/GES

Dr. Dorothy Glover has a wealth of experience working in education in various capacities. She currently leads the Quality and Outcomes aspects of the SEIP, including managing both the Scholarship Programme and School Performance Partnership Plans (SPPPs). Dr. Glover has been working on the project since its inception in 2014; after retiring from working for GES in 2015, she now works for the project directly.

Prior to the SEIP, Dr. Glover worked in the Secondary Education Division of GES for twelve years and acted as the Deputy of the Division until her retirement. During this time, Dr. Glover was a member of the Core Project Implementation Team (CPIT) of the Development of Senior Secondary Education Project (DSSEP), an African Development Bank (ADB) project running from 2007 to 2011. She also attended a number of conferences, including presenting at the International Conference on Education Development and Innovation and the International Conference on Education Research for Development in Africa in 2016.

Dr. Glover taught at various institutions before moving to GES headquarters, including Krobo Girls Senior High School, Jasikan Training College (now Jasikan College of Education), Ho Technical Institute, and Ho Polytechnic, among others. Dr. Glover holds a PhD in Education (Ed.D.) from the University of Sussex, an MPhil in Adult Education from the University of Ghana, Legon, and a Bachelor's Degree in Education Psychology from the University of Cape Coast.

Research Presenters



Dr. Adrienne Lucas | University of Delaware | alucas@udel.edu

Research Paper: The Importance of Information Targeting for School Choice Decisions

Paper Abstract: Although school choice programs are common, we know little about the underlying decision-making processes. In this study, we randomly assigned 900 junior high schools in Ghana, a country with universal secondary school choice, to one of three treatment arms: (1) information to students, (2) information to students and guardians, and (3) control group. We observe changes in beliefs, behaviors, and the decision-maker's identity through a survey of guardians. Our intervention increased the likelihood that guardians were involved with and informed about the school selection process. Moreover, specifically targeting guardians led to significantly larger changes for most outcomes.

Presenter Biography: Dr. Adrienne Lucas is an Associate Professor of Economics in the Alfred Lerner College of Business and Economics at the University of Delaware, a Faculty Research Fellow of the National Bureau of Economic Research (NBER), and a Research Network Member of Innovations for Poverty Action (IPA). She is a development economist specializing in the economics of education and disease. Her current research focuses on the intergenerational effects of adult HIV/AIDS treatment, the importance of information in school choice decisions, and the effect of teacher incentives on student achievement. She has published research on malaria, free primary education, secondary school choice, the return to school quality, and improving early primary school literacy. Prior to joining the University of Delaware, she was an assistant professor of economics at Wellesley College. She received her PhD and AM in Economics from Brown University and her BA in Economics from Wesleyan University.



Prof. Esther Duflo | Massachusetts Institute of Technology | esther.duflo@gmail.com

Research Paper: The Impact of Free Secondary Education: Experimental Evidence from Ghana

Paper Abstract: In 2008, 682 secondary school scholarships were awarded by lottery among 2,064 Ghanaian students (aged 17 on average) who were admitted to a specific school and track but could not immediately enroll, in most cases due to lack of funds. We use follow-up data collected until 2016 to document downstream impacts by age 25. For the whole sample, scholarship winners were 26 percentage points (55%) more likely to complete secondary school, obtained 1.26 more years of

secondary education, scored an average of 0.15 standard deviations greater on a reading and math test, and adopted more preventative health behavior. Women who received a scholarship had 0.217 fewer children by age 25. Scholarship winners were also 3 percentage points (30%) more likely to have ever enrolled in tertiary education. Despite the fact that they were 2.5 percentage points more likely to be enrolled in school at the time of the last survey, they were 5.5 percentage points (10%) more likely to have positive earnings and had significantly higher (hyperbolic sine) earnings. For students admitted to vocational tracks (comprising 60% of the sample) scholarships did not increase tertiary education, which simplifies the interpretation of labor market outcomes. In this subsample, scholarships increased the likelihood of earning money by 8.8 percentage points (16%) and increased total earnings by 19%. The estimated financial rate of return to education in this subsample is 13%. For students admitted to academic majors, scholarships increased the chance of having enrolled in tertiary education by 5.3 percentage points on a base of 11 percent. This effect is driven overwhelmingly by women, who nearly double their rate of tertiary enrollment and fully catch up with men. We cannot reject the hypothesis that among those admitted to academic tracks, scholarships did not affect average labor market participation and earnings by age 25, but since more scholarship winners than non-winners were still in school as of 2016, it is too early to definitively assess labor market impacts in this population.

Presenter Biography: Prof. Esther Duflo is the Abdul Latif Jameel Professor of Poverty Alleviation and Development Economics in the Department of Economics at the Massachusetts Institute of Technology and a co-founder and co-director of the Abdul Latif Jameel Poverty Action Lab (J-PAL). In her research, she seeks to understand the economic lives of the poor, with the aim to help design and evaluate social policies. She has worked on health, education, financial inclusion, environment, and governance.

Professor Duflo's first degrees were in history and economics from École Normale Supérieure, Paris. She subsequently received a PhD in Economics from MIT. She has received numerous academic honors and prizes, including the Princess of Asturias Award for Social Sciences, the A.SK Social Science Award, Infosys Prize, the David N. Kershaw Award, a John Bates Clark Medal, and a MacArthur "Genius Grant" Fellowship. With Abhijit Banerjee, she wrote *Poor Economics: A Radical Rethinking of the Way to Fight Global Poverty*, which won the Financial Times and Goldman Sachs Business Book of the Year Award and has been translated into more than 17 languages. Professor Duflo is a member of the President's Global Development Council and is a Founding Editor of the *American Economic Journal: Applied Economics*.

Round 1, Panel B | Basic Education

Panel Chair



Mr. Akwasi Addae-Boahene

National Programme Manager, T-TEL (Transforming Teacher Education and Learning)

Mr. Akwasi Addae-Boahene is currently the Country Manager for Mott MacDonald Ghana and also the National Programme Manager, Transforming Teacher Education and Learning (T-TEL) in Ghana. He holds an MSc in Social Science. Mr. Addae-Boahene is a strategic management and education expert with strong experience in the design and management of development and education programmes. He has more than 23 years of direct management experience implementing successful programmes in the education and development sectors. In addition, he has more than 20 years of experience working with international development organisations, and has demonstrated continuous professional excellence and proven leadership and management abilities.

Research Presenters



Dr. Sharon Wolf | University of Pennsylvania | wolfs@upenn.edu

Research Paper: *Quality Preschool for Ghana: Developing, testing and scaling-up supply- and demand-side interventions to improve Kindergarten education in Ghana*

Paper Abstract: We assessed impacts on teacher professional well-being, classroom quality and children's school readiness of the Quality Preschool for Ghana (QP4G) intervention, a one-year teacher professional-development program for public and private kindergartens in six disadvantaged districts in the Greater Accra Region of Ghana. This cluster-randomized trial included 240 schools (teacher/classroom N = 337; children N = 2,975) randomly assigned to three treatment arms: (1) teacher training (TT; 82 schools), (2) teacher training plus parent training (TTPT; 79 schools), and (3) control group (79 schools). Randomization was stratified by two levels: districts and public / private sector. In addition, treatment schools were then randomly assigned to receive reinforcement messages from the trainings (weekly text messages for teachers (N = 80 schools) and picture-based paper flyers for parents (N = 40 schools)). The program incorporated training workshops and in-classroom coaching. We found moderate impacts on some

dimensions of teacher professional well-being (reducing burnout in both TT and TTPT, reducing retention in TT), classroom quality (increasing activities and support for children's expression in both TT and TTPT, increasing emotional support and behavior management in TT) and children's school readiness (increasing composite school readiness in TT). No significant program impacts on child outcomes were detected in the TTPT arm. Post hoc school readiness domain estimates for TT indicated significant effects for social emotional skills and marginally for early numeracy, but no significant effects for early literacy or executive function. Professional development for preschool teachers in Ghana can improve some dimensions of teacher professional well-being, classroom quality, and school readiness. More intensive or longer approaches are needed to translate into effects on all domains of children's school readiness.

Presenter Biography: Dr. Sharon Wolf is an Assistant Professor of Human Development and Quantitative Methods at the University of Pennsylvania's Graduate School of Education. She studies the social and environmental determinants of child development and inequalities, focusing on disadvantaged populations. Prior to joining the faculty at Penn GSE, Dr. Wolf was a research scientist at the Global TIES for Children research center at New York University (NYU) and a National Poverty Fellow with the Institute for Research on Poverty at the University of Wisconsin-Madison, where she was in residence at the U.S. Department of Health and Human Services. She received her PhD in Applied Psychology with a concentration in Quantitative Analysis from NYU. Dr. Wolf was a recipient of the American Psychological Foundation Elizabeth Munsterberg Koppitz Graduate Fellowship in Child Psychology, and the Institute of Education Sciences Predoctoral Interdisciplinary Research Training Fellowship.



Dr. Andrew Owusu | Middle Tennessee State University | andrewowusu@gmail.com

Research Paper: *Predictors and Implementation Rates of Policy Guidelines for School Level Health Services Delivery and Water, Hygiene and Sanitation Among Primary and Secondary Schools in Ghana*

Paper Abstract:

Introduction: The "2012 School Health Educational Programme (SHEP); Policy Guidelines" sought to harmonize diverse and scattered national policies targeting school health. This presentation focuses on 1) predictors and implementation rates of recommended minimum package for school level health services delivery and 2) Water, Hygiene, and Sanitation practices and predictors among primary and secondary schools.

Methods: Data from the first-ever Ghana Global School Health Policies and Practices Survey were used. We identified survey items assessing the 13 health service delivery areas as well as WASH components addressed in the 2012 SHEP Policy Guidelines. Complex sample tables and logistic regression were utilized to calculate prevalence estimates and to examine the relationship between health service delivery / WASH items and school characteristics.

Results: 53.2% of schools had a school health committee to guide policy. Overall, 67.4% of schools offered less than 50% of the recommended minimum package for health services. Schools with a committee to guide health policy implementation were 4.08 times (95% CI = 3.23 – 5.18) as likely to offer 50% or more of the recommended minimum package than schools who did not have a committee. Nationally, 78.9% of schools indicated having toilets/latrines, 44.3% had handwashing facilities, and 81.8% provided soap for handwashing. Schools with a health committee were 2.25 (95% CI: 1.83 – 2.76) times as likely to have handwashing facilities; 1.42 (95% CI: 1.13 – 1.78) times as likely to have clean drinking water; and 1.70 (95% CI: 1.34 – 2.17) times more likely to test water for safety.

Conclusion: Schools without a committee to guide school health policy are at higher risk for not meeting the recommended minimum package for health services delivery. Lacking a health committee to guide health policy increases risk for lacking access to clean drinking water or hand washing facilities. Focus should be placed on activating or reenergizing school health committees.

Presenter Biography: Dr. Andrew Owusu is an Associate Professor in the Department of Health & Human Performance (HHP) at Middle Tennessee State University (MTSU) and the current Graduate Program Director for the Health area in HHP. Dr. Owusu is Ghana's country coordinator for the following initiatives: 1) Ghana Global School-based Student Health Survey (GSHS) and 2) Ghana Global School Health Policies and Practices Survey (G-SHPPS). GSHS focuses on assessment of health risk behaviors and protective factors among high school students. G-SHPPS focuses on assessment of school health policy implementation. MTSU, Ghana Education Service, the World Health Organization, and the U.S. Centers for Disease Control and Prevention carry out the latter initiatives collaboratively. On the personal side, Dr. Owusu is a three-time Olympian, four-time African Champion and a Commonwealth Games Silver medalist in the triple jump. He still holds Ghana's national record in the triple jump set 19 years ago (1998).

Round 2, Panel A | Improving Educational Outcomes

Panel Chair



Prof. Eric Magnus Wilmot

Provost of College of Education Studies, University of Cape Coast

Prof. Eric Magnus Wilmot is an Associate Professor of Mathematics Education and currently Provost of the College of Education Studies, University of Cape Coast. He obtained his Bachelor's (1988) and Master's (1997) Degrees from the University of Cape Coast. In 2008, he obtained his PhD in Curriculum, Teaching and Educational Policy with specialization in Mathematics Education from Michigan State University. Prof. Wilmot has been teaching, researching, and publishing in peer-reviewed journals for the past two decades, and has presented at numerous conferences both locally and internationally. Prof. Wilmot has participated in and served as team leader, lead researcher, and consultant for several research projects across a number of African countries and the U.S. Cardinal among them are the first and second Improving Educational Quality projects (IEQ 1 & 2) in Ghana, the Malawi Teacher Training Activity, and the Knowledge of Algebra for Teaching project in the U.S.

Research Presenters



Ms. Jamie Johnston | Stanford University | jamie.johnston@stanford.edu

Research Paper: *Effectiveness of Interactive Distance Instruction: Experimental Evidence from Ghanaian Primary Schools*

Paper Abstract: In rural areas of lower- and middle-income countries, learning outcomes are often only a fraction of those in urban areas. The same is true in Ghana, where evidence suggests that students in rural areas significantly underperform their urban counterparts. In these areas, schools also struggle to attract and retain professionally-trained teachers (GES 2012; World Bank 2012). Evidence suggests that programs that introduce vetted high-quality content and provide sustained instructional support can bring about substantial gains in student learning in under-resourced settings (Snilstveit et al., 2015). Through a cluster randomized controlled trial, we estimate the impact of a program that broadcasts live instruction via satellite to marginalized students in rural primary schools. The program equipped classrooms in 70

randomly selected schools with a technology package through which they can connect math and English classrooms with a studio teacher based in Accra. The model is interactive, and students in satellite classes can communicate directly and in real time with the studio teacher during lessons. An additional 77 schools serve as the control. After two years, we estimate significant gains ($p < .05$) in numeracy and literacy skills. We find no impact on attendance and classroom time-on-task (as measured by unannounced classroom observations), suggesting that these gains may be a result of instructional quality rather than increases in total quantity of instruction time. Qualitative interview data with students and teachers point to changes in the pedagogical approaches used in the classroom as a potential driver of the gains. The positive impact of the satellite classes suggest that distance learning instruction can be an effective means for improving student learning in remote areas.

Presenter Biography: Ms. Jamie Johnston is a PhD candidate and Institute of Education Sciences (IES) fellow in the Economics of Education program at Stanford University. Her broader research focuses on the use of technology to reach remote and underserved populations. She has several ongoing studies examining the effectiveness of online and distance learning interventions in Ghana, India, and Mongolia. She holds a BS in Social Policy from Northwestern University and an MPP from the University of Chicago.



Ms. Annie Duflo | Innovations for Poverty Action | aduflo@poverty-action.org

Research Paper: *Adapting and Evaluating Targeted Instruction Approaches into a New Context through a Nationwide Randomized Experiment in Ghana*

Paper Abstract: Over the last decade, millions more children in developing countries have gained access to primary school education. Despite this achievement, many children enrolled in their first years of school are still not learning how to read, write, or do basic math. Building on previous research, researchers at Innovations for Poverty Action evaluated the impact of several targeted instruction programs on the learning outcomes of primary school students in Ghana's public schools. Researchers found significant improvements in numeracy and literacy on average, with regional variations that seem to correlate with implementation challenges. Of four interventions, in-school and after-school remedial lessons delivered by community assistants had the largest impact on pupil achievement, but training teachers to provide targeted instruction was less costly and also improved test scores.

Presenter Biography: Ms. Annie Duflo is responsible for leading the strategic directions of IPA, the implementation of its strategic plan, and its day-to-day operations. Previously, she served as IPA's

Research Director, where she managed IPA's research network, staff capacity-building, and new project development. She also played a key role in the scaling up of successful programs, with particular focus on education. She has a wealth of experience implementing and managing randomized evaluations in the field. Prior to joining IPA, Ms. Duflo was the Executive Director of the Centre for Microfinance (CMF) at the Institute for Financial Management and Research (IFMR) in Chennai, India, which she joined at its creation. She holds a Master's Degree in Public Administration and International Development from Harvard University's John F. Kennedy School of Government, and a Master's in Social Sciences from EHESS (École des Hautes Études en Sciences Sociales) / ENS (École Normale Supérieure) in Paris.



Round 2, Panel B | Social Interventions

Panel Chair



Prof. Francis Kodzo Amedahe

Professor of Education Assessment / Measurement, University of Cape Coast

Prof. Francis Amedahe holds a Bachelor's Degree in Education from the University of Cape Coast, a Master's Degree in Educational Measurement and Evaluation, and a Doctor of Philosophy Degree in Educational Measurement, Research, and Statistics from the University of Pittsburgh. By dint of hard work, he rose through the ranks and was promoted to become a full professor in 2009. He was the local consultant in the Development of the Ghana Basic Education Comprehensive Assessment System (Ghana BECAS), which led to the establishment of the National Education Assessment Unit (NEAU). Prof. Amedahe served as the Head of Department and Dean of the Faculty of Education at the University of Cape Coast. He also served on the National Council for Curriculum and Assessment (NCCA). Prof. Amedahe has many publications to his credit and has attended a number of professional conferences locally and internationally.

Research Presenters



Dr. Gabriel Botchwey | University of Education, Winneba | gkbotchwey@uew.edu.gh

Research Paper: Reaching the Poor or the "Well-Connected"? School Targeting and Selection Dynamics under Ghana's School Feeding Programme

Paper Abstract: The success of social policy interventions in education depends on effective targeting and management. This paper examines the effectiveness of social policy targeting in developing countries, using the Ghana School Feeding Programme (GSFP) as a case. Ghana has implemented a school feeding programme since 2007, but just about 21% of the target population is reached over the years. The study investigates why this occurs, using semi-structured interviews with community leaders, teachers, head teachers, parents/guardians, pupils, programme donors and managers, local government officials, and locally-elected representatives. The study participants were drawn from clusters of the poorest (Upper

West), richest (Greater Accra), and mid-income (Central) regions of Ghana. Findings from interviews reveal that selection of schools and caterers to participate in the programme is very much linked to political affiliation and ability to lobby the government in power. Next, major decisions and activities regarding the GSFP are controlled by political appointees and affiliates, most apparently, by design rather than a situation that has occurred by default. Thus, the targeting of beneficiaries remains open to manipulation while reliable data that could improve the process may be ignored for political reasons. Findings also reveal that the GSFP has indeed increased enrolment in beneficiary schools; however, much of these could be transfers of pupils from non-beneficiary to beneficiary schools, especially at the kindergarten level. The paper therefore argues that valid beneficiaries of social policy programmes may be deliberately missed due to covert intentions of powerholders to service patronage networks. However, greater reliance on poverty profiles, publication of selection criteria and inclusion of non-state actors in selection, and coordination and monitoring would help reverse this situation. In addition, a more stable statutory funding mechanism similar to that of the Ghana Education Trust Fund could be explored to cater for the programme. This would allow the state to universalize the GSFP to cover all children in basic education, and reduce the opportunities for political manipulation.

Presenter Biography: Dr. Gabriel Botchwey is a Lecturer and Head of the Department of Political Science at the University of Education, Winneba. He holds a PhD in Politics and International Studies from the University of Leeds, a Master's Degree in Development Studies from the Institute of Social Studies of Erasmus University Rotterdam, and a Bachelor's Degree in Sociology and Religions from the University of Ghana. Dr. Botchwey's current research focuses on e-governance and public service delivery; decentralisation and local governance; social policy and education (school feeding); and environment and natural resource extraction. His recent publications include *Conflict, collusion and corruption in small-scale gold mining in Ghana: Chinese miners and the state*, *Impact of small-scale mining on education and livelihoods in Ghana*, and *Foreign involvement in small-scale gold mining in Ghana and its impact on resource fairness*. He is a member of the Council for the Development of Social Science Research in Africa (CODESRIA).



Dr. Clement Adamba | University of Ghana | cadamba@ug.edu.gh

Research Paper: *Evaluation of alternative school feeding models on children's educational outcomes: preliminary findings from a cluster randomised control trial*

Paper Abstract: "Home-grown" school feeding programmes (HGSF) are complex interventions that impact children's schooling and health outcomes and have the potential to promote inclusive development. While schooling impacts of providing school meals are well-documented, the evidence in Ghana is less well-established, though there are programme evaluation reports that suggest large positive effects on school

enrolment and attendance. This is the first rigorous evaluation of HGSF in the literature, as well as of the Ghana School Feeding Programme (GSFP).

The evaluation is a three-year study that involved a cluster-randomised control trial designed around the scale-up of the national school feeding programme. The study involved 116 primary schools in 58 districts across the 10 regions of Ghana. The randomly assigned interventions were: 1) schools and communities where the regular government school feeding programme (GSFP) is implemented; 2) schools and communities where the traditional GSFP is implemented alongside an innovative pilot project aimed at enhancing nutrition and agriculture (HGSF); and 3) a control group, including schools and households from communities where the intervention was delayed. The evaluation followed a mixed-method approach, including child-, household-, school- and community-level surveys as well as in-depth interviews with project stakeholders. Two baselines were conducted in August 2013 and February 2014 and endline was completed in March 2016.

The results suggest that the likelihood of a child enrolling in a feeding school is higher by about 2 percentage points compared to enrolling in a non-feeding school. Girls in HGSF schools are more than 13 percentage points less likely to miss a school day. In terms of learning achievement, school feeding increased girls' achievement in literacy, maths and reasoning ability by 13.5%, 12.7%, and 8.2%, respectively. Children's time per day spent at school or studying increased by 26 additional minutes for children benefiting from school feeding. Girls spend 32 additional minutes compared to 20 additional minutes by boys per day at school or studying. We conclude that there is a need to take measures to enhance the nutritional value of the meals provided and an even greater need to take steps to sustain the gains made in increased enrolment by paying attention to retention and completion. The study is important in providing management and stakeholders with indications of progress of the programme in achieving desired goals.

Presenter Biography: Dr. Clement Adamba is a Research Fellow in the School of Education and Leadership, University of Ghana. He holds a PhD and MPhil in Development Studies from the University of Ghana and Bachelor of Education in Social Studies and Economics from the University of Education, Winneba. His academic and research interests include education, health, poverty, and social protection, with particular expertise in the study of the socio-economic dimensions of educational and health policies on households. As a researcher, Dr. Adamba has great experience in the design and implementation of household surveys and use of household surveys for policy analysis. He teaches Educational Policy and Planning and Economics of Education in the MA Educational Leadership and Management Programme in the Department of Educational Studies and Leadership at the University of Ghana.

Round 3, Panel A | Maths Education

Panel Chair



Dr. Evelyn Oduro

Director, Teacher Education Division, GES

Dr. (Mrs.) Evelyn Oduro is an excellent teacher and educator with over ten years of teaching experience. She holds a Bachelor's Degree in Mathematics Education from the University of Nottingham, a Master's Degree in Public Sector Management from the Ghana Institute of Management and Public Administration, and a Master's Degree in Educational Administration from the University of Cape Coast. In 2015, she obtained her doctorate degree from the University of Sussex. She has attended several workshops in and outside of Ghana and has chaired international conferences. Dr. Oduro has professional experience providing in-service capacity building for teachers, having served as the National In-Service Coordinator from 2009 to 2013. She has risen through the ranks at GES to become the Municipal Director of a newly created district, and currently serves as the Divisional Director of the Teacher Education Division of GES.

Research Presenters



Dr. Paul Butakor | University of Ghana | pbutakor@ug.edu.gh

Research Paper: Using Hierarchical Linear modeling to examine attitudinal and instructional variables that predict students' achievement in mathematics

Paper Abstract: Mathematics is considered to be the foundation for success in many aspects of life because there cannot be any meaningful development without knowledge of mathematics. Students' achievement in mathematics is often considered necessary for the success of the future of a country. Therefore, training and preparing students to do well in mathematics has become a fundamental goal of education in most countries. Researchers, educators, and policymakers are in a continuous struggle to find ways to improve students' achievement in mathematics.

Applying Hierarchical Linear Modeling on the Trends in International Mathematics and Science Study (TIMSS) 2007, this study examines the relationship between attitudinal and instructional variables and mathematics achievement among Ghana's grade eight students. Prior to the analyses, exploratory factor

analyses were conducted for clusters of similar items to reduce the number of predictor variables. The results indicate that students' gender, educational aspiration, self-confidence in mathematics, value for mathematics, frequent use of some instructional variables, and teachers' major areas of study were significant predictors of mathematics achievement. However, teacher variables such as teachers' gender and years of teaching were not significant predictors of maths achievement.

Presenter Biography: Dr. Paul Kwame Butakor is a lecturer at the Department of Teacher Education, School of Education and Leadership, University of Ghana. He holds a PhD in Measurement, Evaluation, and Cognition from the University of Alberta, Canada; an MSc in Educational Sciences from the University of Groningen, Netherlands; a Bachelor of Education (Mathematics and Statistics) from the University of Cape Coast; and a Post-Graduate Certificate in Business Administration from the Ghana Institute for Management and Public Administration.

Dr. Butakor's research interests include educational measurement and evaluation, program evaluation, psychometrics, growth models, statistical methods in education and psychology, large-scale assessments, secondary data analyses, mathematics education, and teacher education/professional development.



Prof. Jonathan Fletcher | University of Ghana | dcjonfletcher@aol.com

Mr. Stephen Baidoo | OLA College of Education | sjrkkweku2010@yahoo.com

Research Paper: Pupils' Understanding of Multiplication and Division in Multiple Contexts

Paper Abstract: The concepts of multiplication and division are building blocks for the learning of nearly all mathematics topics. Yet pupils, particularly those in lower primary and the starting point of the upper primary level, find these concepts difficult to handle. This paper reports on a month-long study carried out in four primary schools in the Cape Coast Metropolis, which was a study of the impact of teaching multiplication and division in multiple contexts on pupils' understanding of multiplication and division and their ability to solve problems in these areas. Multiplication has always been treated as repeated addition, whereas division has been seen by many teachers only as equal grouping of given quantities, despite the different practical situations and contexts that make use of these operations. The study used a quasi-experimental design involving experimental and control groups. The study involved 137 pupils from primary four intact classes. The main instruments used in the study were a pre-test and a post-test. The results indicate a significant difference in the performance of pupils in the experimental and control groups in their: a) ability to distinguish between multiplication and division concepts; b) understanding of multiplication; and c) understanding of division.



Presenter Biographies:

Prof. Jonathan Fletcher is the Dean of the School of Education and Leadership at the University of Ghana, Legon. He is a specialist mathematics educator, teacher trainer, and assessment consultant. He holds a BSc (Hons) in Financial Mathematics (valuations) from the University of Reading, an MSc (numeracy) from London South Bank University, MA and PhD degrees in Mathematics Education from the University of London, and a Certificate in Coaching (mathematics) from Oxford Brookes University, all in the United Kingdom. Professor Fletcher has taught mathematics and education at British and Ghanaian universities and is a former head of Post Graduate Certificate in Education (PGCE) Mathematics at London University's Institute of Education, a former head of PGCE (Post Compulsory) at the University of Greenwich, a former head of the Department of Science and Mathematics Education, University of Cape Coast, and a former Deputy Director of the Institute of Education at the University of Cape Coast. He has over thirty publications to his credit, including books on pure and applied mathematics as well as papers on the teaching and learning of mathematics, assessment in mathematics, and studies on teacher performance appraisal.

Mr. Stephen Baidoo is an outstanding classroom practitioner with pretty good mathematics teaching experience spanning through all education levels, along with the ability to motivate and inspire students across the age and ability range. He is on the mission to shape the next generation of mathematics and science teachers for our basic schools. He is fulfilled when helping student teachers grow professionally. He holds a BEd in Mathematics from the University of Winneba, an MPhil in Mathematics Education from the University of Cape Coast (UCC), an MSc in Industrial Mathematics from the Kwame Nkrumah University of Science and Technology (KNUST), and a Certificate in Teacher Education for Basic Education of African Countries from Kagoshima University in Japan. After joining the Mathematics Department at Wesley Girls' High School in Cape Coast in 2003, by dint of hard work, he became a form master, and a Ward-Brew House Master in 2007. As a Mathematics Tutor at OLA College of Education, Cape Coast since 2009, he also serves as a Link Tutor, Academic Counselor, and first year Programme Coordinator, and has supervised dozens of students' project work. He previously taught at CoDe and the Institute of Education's Sandwich BEd programme at UCC. Mr. Baidoo is also a co T-TEL Researcher on a three-year Qualitative Research Study involving Colleges of Education, Ghana, initiated by NCTE and NTC and implemented by T-TEL, Ghana. He has also organized workshops for Basic Education Teachers.



Round 3, Panel B | Private Sector Involvement in Education

Panel Chair



Very Reverend Sam Nii Nmai Ollenu

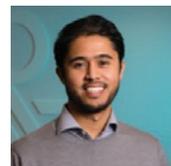
Head of National Office, West African Examination Council (WAEC)

The Very Reverend Sam Nii Nmai Ollenu is currently the Head of the National Office, WAEC in Accra, a post he has held since 2012. He joined the Council in October 1984 after four years at St. Thomas Aquinas Secondary School in Accra. He has served in a number of capacities at WAEC, including: Director of Administration, Second-in-Command, School Examination Administration Department, Branch Controller, Koforidua Office, Second-in-Command, and Private Candidates Examination Administration Department.

The Very Rev. Ollenu was born and educated in Accra. He holds a BSc in Chemistry with Mathematics from the University of Ghana, Legon, a Master's Degree in Educational Measurement and Evaluation from the University of Cape Coast, and a Post-Graduate Diploma in Public Administration from the Ghana Institute of Management and Public Administration (GIMPA). He has also participated in several international seminars and short courses in different fields including corporate governance.

The Very Rev. Ollenu doubles as an Ordained Minister of the Methodist Church Ghana and has authored three books. He is married to Beatrix and blessed with four children.

Research Presenters



Mr. Arjun Upadhyay | Results for Development Institute | aupadhyay@r4d.org

Mr. Robert Francis | Results for Development Institute | rfrancis@r4d.org

Research Paper: Understanding Household and School Proprietor Needs in Low-Fee Private Schools in Ghana

Paper Abstract: This research has two main objectives. The first is to assess the needs of low-fee private schools and better understand household-level perceptions of quality and willingness to pay for education services. The second is to assess the impact of the IDP Rising Schools Program, a capacity-building and financial inclusion venture in Ghana. To this end, researchers surveyed 150 low-fee private school proprietors across five regions of Ghana, and members of 1,950 households with children attending those schools. Qualitative and quantitative data on household-level finances, expenditures, and perceptions of quality were collected, in addition to proprietor background, perceptions of the needs of schools,



utilization of financing, and school enrollment, staffing, revenue, and expenditure. Four main findings emerged from the analysis of this data. First, despite the challenges of poor infrastructure and a lack of financing, LFPS schools demonstrate impressive resilience, through the use of flexible fee structures and gradual infrastructure investment. Second, teacher quality in LFPS is a priority for parents and proprietors alike, and proprietors almost universally invest in teacher training. Third, schools are not accessed by the lowest-income households, and school fees are burdensome for many attendees. Fourth, although the study's model does not allow for causal inference, there is evidence that the IDPRSP interventions have enabled LFPS proprietors to acquire more business acumen.

Presenter Biographies:

Mr. Arjun Upadhyay is a program officer on the global education team at R4D. His work centers on education economics, finance, and project evaluations. His areas of activity include research on early childhood development (ECD) financing, education costing and expenditure analysis, and low-fee private schools. At R4D, Mr. Upadhyay has contributed to numerous studies such as the interim evaluation of the Global Partnership for Education and an ECD financing report for the International Commission on Financing Global Education. Prior to joining R4D, he was an associate program officer at The Asia Foundation in the Philippines. He has also consulted for USAID and the UN Institute for Training and Research. He holds a Bachelor's Degree in International Relations and Economics from the College of Wooster and a Master's Degree in International Development and Education from Georgetown University's School of Foreign Service. He is proficient in French and speaks conversational Nepali.

Mr. Robert Francis is a program associate working on education, for which he supports a number of projects. His areas of expertise include affordable private schools (APS), education economics, and programs that improve youth employability. Prior to joining R4D, Mr. Francis worked for AidData, where he conducted a field study to determine factors that motivate transparent behavior in Indian NGOs. He was also an AidData summer fellow at the Economic Policy Research Centre in Kampala, Uganda, where he designed and taught courses on impact evaluation and the research applications of GIS. He holds a Bachelor of Arts in Political Science from Brigham Young University.



Ms. Oni Lusk-Stover | The World Bank Group | oluskstover@worldbank.org

Research Paper: The Role of the Private Sector in Providing Basic Education Services in Ghana: An In-Depth Report

Paper Abstract: Despite significant government investments in the public education system in Ghana,

population growth and migration have led to an undersupply of school places, especially in urban centers, leading to an increase in private sector enrollments. Many parents, who can afford to do so, are choosing private schools due to a perceived higher quality of education service provision in private schools. In the National Education Assessment 2013, students in private schools performed better in Math and English at both grade 3 and grade 6, in terms of raw scores. However, the higher performance of private schools may be due to student selection rather than the quality of education delivered. The issues of student selection and affordability are important given that the majority of private schools sampled in this study of over 200 private schools in Kasoa, Ghana, seem to offer limited accessibility for the poorest, due to high financial cost. The cost of private primary schooling for the poorest is approximated to be 15 percent of total income. As well, while Ghana's legal framework and school funding mechanisms advance free public education, there are non-tuition costs that could be burdensome for the poorest households. Based on the Ghanaian context, this report presents findings based on school surveys implemented in over 200 schools in Kasoa, Ghana. Recommendations are offered based upon five challenge areas: safeguarding access, improving quality, ensuring equity, delivering cost efficiency, and increasing data availability.

Presenter Biography: Ms. Oni Lusk-Stover is a Senior Education Specialist with the World Bank's Education Global Practice. She is the team leader for the Systems Approach for Better Education Results-Engaging the Private Sector program, contributing to the global evidence base regarding the non-state sector in education. Under SABER-EPS, she has worked with education stakeholders to produce over twenty reports detailing the laws and policies pertaining to the non-state education sector in sub-Saharan Africa and South Asia. The SABER-EPS team also developed and implemented policy implementation tools and provider-level surveys in Kasoa, Ghana; Lagos, Nigeria; Morogoro, Tanzania; and Pikine and Guédiawaye, Senegal. Ms. Lusk-Stover is also the Education Lead for Gender within the World Bank, overseeing the Bank's US\$2.5 billion education commitment over five years (2016-2020) through projects that directly benefit adolescent girls. Since joining the World Bank in 2006, she has managed the Partnership for Education Development, a partnership with the United Kingdom's Department for International Development supporting research on education resilience, school finance, teacher policies, workforce development, and education markets for the poor. She was a team member of the Education Sector Strategy 2020, Learning for All, and has worked on education projects in sub-Saharan Africa and South Asia.



PANEL DISCUSSION

Moderator



Mrs. Eunice Yaa Brimfah Ackwerh

World Bank, Accra, Ghana

Mrs. Eunice Ackwerh has over 25 years of experience working in the education sector and is currently a Senior Education Specialist with the World Bank, Ghana. Recent and ongoing projects include leading the Ghana Skills and Technology Development Project (GSTDP) and co-leading the Secondary Education Improvement Project (SEIP) and the Africa Centers of Excellence (ACE) Project. Prior to joining the World Bank, Mrs. Ackwerh worked as an Associate U.S. Peace Corps Director in Ghana. Here she managed their Education project, supporting and coordinating the site assignments of 250 volunteers and reviewing the education technical programme. Mrs. Ackwerh began her career as an Assistant Director in the Planning, Budgeting, Monitoring and Evaluation (PBME) Division of the Ministry of Education as a Policy Analyst and Educational Planner. Mrs. Ackwerh holds an MA in Economic Policy Management from the University of Ghana, Legon; a Certificate in Education Planning and Administration from the International Institute of Education Planning (IIEP), Paris; and a BSc in Development Planning (Hons) from the Kwame Nkrumah University of Science and Technology (KNUST).

Panelists

Please see page 25 for information about Mrs. Cynthia Bosumtwi-Sam and page 39 for information about Prof. Jonathan Fletcher.



Dr. James Dobson

Education Office Director, USAID Ghana

Dr. James Dobson is the Director of the Office of Education for USAID/Ghana. For USAID, he previously served in Iraq, Mozambique, and Afghanistan. Before coming to AID, Dr. Dobson worked for UNICEF in Niger (2003-2006), and served as Peace Corps Country Director in Cameroon (1999-2002). He was a Peace Corps Volunteer in Gabon (1978-80). Dr. Dobson graduated from the University of Kansas in 1978, and earned a PhD in Education: Curriculum and Instruction from the University of Minnesota in 1993.

Dr. Dobson's teaching and academic career includes four years at the junior high school level in Gabon, and seven years as a university instructor and assistant professor at the Universities of Minnesota and Georgia. His academic expertise is principally in the areas of Basic Education, Early Grade Reading, Foreign Language Education, School Governance, and Girls' Education. He speaks French and Portuguese. Dr. Dobson resides in Accra with his wife, Veronique, and daughter, Afi.



Ms. Heidi McAnnally-Linz

Associate Director of Policy & Communications, Innovations for Poverty Action

Ms. Heidi McAnnally-Linz leads the policy and communications team for IPA, a research and policy nonprofit that discovers and promotes effective solutions to global poverty problems. She is responsible for IPA's policy outreach and communications strategy and works in collaboration with IPA's 20 country programs to develop policy strategies, craft policy-focused products, and lead events for policy audiences. She came to IPA with experience working with local decision-makers in the education and micro-enterprise sectors in Latin America and helped launch and administer the Senior Fellows Program at the Jackson Institute for Global Affairs at Yale University. She holds an MPA in International Policy and Management from New York University and a BA in Political Science from Haverford College.

Today is Tuesday
24 / 12 / 2014

Xm Opokl Serdun
Aa Bb Cc Dd Ee Ff
Gg Hh Ii Jj Kk Ll Mm Nn Oo
Pp Qq Rr Ss Tt Uu Vv
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