MINISTERIAL FORUM:
HARNESSING THE POWER OF ICT TO TRANSFORM EDUCATION SYSTEMS

Official Side Event of the AUC Innovating Education in Africa Expo 2019

Gaborone, Botswana
Peermont Walmont Hotel at Mmabatho Palms
Okavango Suite

August 18–19, 2019

REPORT OF PROCEEDINGS

HARNESSING THE POWER OF ICT TO TRANSFORM EDUCATION SYSTEMS – REPORT OF PROCEEDINGS

AUGUST 18, 2019 – OPENING SESSION

The Forum was officially opened by His Excellency Bagalatia Arone, Minister of Basic Education of the Republic of Botswana. In his opening remarks, the Minister highlighted the importance of education and the role that ICT can have in improving education outcomes. He welcomed and thanked his colleagues and all participants for attending the Forum and the Expo.

The Minister was followed by Her Excellency Professor Sarah Anyang Agbor, African Union Commissioner for Human Resources, Science and Technology. Prof. Agbor highlighted the importance of education in allowing Africa to achieve its "Agenda 2063: The Africa We Want" and highlighted efforts already underway at the AU level to improve education and incorporate ICT into education. She mentioned that we are not starting from scratch and called for increased collaboration among all education stakeholders.

Ms. Kimberley Kerr, Director of Regional Programs at Mastercard Foundation, spoke on behalf of the Foundation and welcomed the Ministers and other participants to the Forum. She shared with them the Foundation's Young Africa Works strategy, highlighting the goal of preparing 30 million young people for dignified and fulfilling work by the year 2030. Kimberley also noted the important role that education and training have in preparing young people for work. She gave the attendees a brief history of the Regional Centre for Innovative Teaching and Learning in ICT ("the Centre"), its mission, and how it intends to work with all education stakeholders, especially Ministries of Education.

The opening session was capped off with dinner for the participants.

AUGUST 19, 2019 – THE FORUM

The Forum was moderated by Ms. Aissa Sow, Mastercard Foundation Nigeria Country Team Lead and Senior Program Manager for Policy and Digital Skills.

Setting the Stage

Mr. Joseph Nsengimana, the Centre Director, set the stage for the Forum. He shared a detailed description of the Centre and its objectives, and how the Ministerial Forum will inform the Centre's work. Joseph shared that the Centre was established by the Mastercard Foundation to spark innovation, promote promising practices in the use of ICT for teaching and learning, and catalyze significant improvement in education across the continent. Its three key outcomes are: 1) demand-driven EdTech innovations that close the gap in access, quality, and relevant learning, especially for the most disadvantaged students; 2) better evidence of what works in ICT for school and system leaders in Africa; and 3) an active network of ICT leaders in education, advancing the integration of technology into education policies and practices across the continent. The Centre will accomplish these outcomes by working closely with governments, especially education ministries and EdTech entrepreneurs. It will support entrepreneurs to improve teaching and learning at scale.

Joseph indicated that the Forum was an opportunity to identify key education challenges and constraints that EdTech solutions can help resolve. The outcomes of the Forum will inform a competitive call for applications for EdTech entrepreneurs to address the key challenges identified by the ministers and other education stakeholders.

Dr. Beatrice Njenga, Head of the Education Division, African Union Commission, spoke on the behalf of the AUC and echoed what the Commissioner had said at the opening ceremony. She emphasized the need to align to the Agenda 2063 goals and especially those outlined under the Continental Education Strategy in Africa (CESA) Cluster on ICT. The framework of the AUC Agenda 2063 is fully aligned with the SDGs and relies on the competencies and capabilities of Africans themselves. It aims to transform Africa into a producer of knowledge. CESA has several strategic objectives, including teacher training, the use of ICT to improve access, quality, and relevance, STEM, TVET, and tertiary education. She reminded the attendees that they are not starting from zero and that innovators at the upcoming Expo are already addressing some of the challenges faced by education on the continent.

MINISTERIAL ROUNDTABLE PART 1:
VISION FOR EDUCATION AND KEY PRIORITIES

This roundtable was moderated by Mr. Albert Nsengiyumva, Executive Director of the Association for the Development of Education in Africa (ADEA). The Ministers shared the education vision of their respective countries, key priorities, and challenges and opportunities.

Ethiopia: The Honorable Tsion Teklu Maru, Ethiopia's State Minister of Basic Education, shared with the audience that strengthening the quality of education is a key priority in Ethiopia. The country has constructed an education roadmap, to be implemented starting in September, that has incorporated ICT in education and is supported by an ICT centre at the Ministry. The Minister stressed that many key challenges related to improving access to quality education for girls, pastoral communities, and students with special needs could be addressed by leveraging technology. For example, while distance education using television has been implemented all over the country, reliable power remains a challenge.

Ghana: The Honorable Dr. Matthew Opoku Prempeh, Ghana's Minister of Education, indicated that education is a driver to achieving employability, economic growth, and prosperity. He highlighted the need to bridge the access and quality divide between urban and rural regions and stressed the need to ensure the relevance of what is learned in school to employability. The Minister noted that ICT is a powerful tool that can address a variety of challenges in education, highlighting the examples of electronic textbooks that reduce printing costs and improve access, the role that ICT can play in teachers' continuous professional development, and the use of technology to provide simulated environments for TVET training.

Botswana: H.E. Bagalatia Arone, Botswana's Minister of Basic Education, highlighted the need to share experiences in Africa and to come up with homegrown solutions to African challenges. Human resource development is critical, and Botswana has developed a strategic education plan which focuses on TVET to respond to unemployment. Instead of producing job seekers, Botswana is focused on producing employment creators. Strengthening education quality through teachers' professional development, ICT, education management information systems, and research is a key priority. In Botswana, all secondary schools have connectivity, as do 75 percent of primary schools, although bandwidth remains a challenge.

Rwanda: The Honorable Dr. Isaac Munyakazi, the Minister of State responsible for Primary and Secondary Education in Rwanda, emphasized the importance of strong leadership and political will in educational transformation and highlighted the centrality of education in Rwanda's Vision 2020 strategy, which aims to transform Rwanda into a knowledge-based economy. Rwanda has made the first 12 years of education free for all and has invested in improving infrastructure and teacher quality. While there are still challenges within the education system, ICT is currently being used to address some of them, such as teacher training, textbook production, and classroom learning through programs such as "One Laptop per Child," the establishment of "Smart Classrooms," and the development of digital education content.

Uganda: The Honorable Dr. John Chrysostom Muyingo, Uganda's State Minister of Education, contextualized the situation in Uganda: a population of 40 million people, 32 million of whom are

young people seeking education. Uganda has a clear development vision with education at the centre. The country is determined to provide every child with quality and relevant education, and the quality of teaching is critical. However, education in Uganda faces many challenges, such as absenteeism of both students and teachers, a shortage of competent teachers and in-service teacher training, and high drop-out rates. The State Minister noted that students often find learning boring and not engaging.

Key Takeaways

- **Relevance:** High-quality and relevant education is the key to lifelong learning and working countries in Africa. It is the key to economic development and to achieving "The Africa We Want." There must be an emphasis on the relevance of education, ensuring young people are prepared for work.

- **Access:** There is a need to extend access to quality education to those hard-to-reach students in rural and remote areas.

- **Teachers:** The quality of education depends on the quality of teachers. There is a need to strengthen pre-service teacher training as well as continuous learning and professional development.

- **Education Systems:** There is a need to strengthen the management of education systems and data-driven decision-making in the education sector in order to effectively manage education delivery.

- **Political will:** The Ministers emphasized the importance of a political will to enable the changes needed to strengthen education systems through the use of ICT, as well as the importance of partnership and engagement with all education stakeholders. There are strong ICT policies in many countries, but implementation of the policies is a challenge.

- **Sharing Learning:** African countries must work together and learn from each other in the education space. Strategies include establishing peer review mechanisms and sharing learning.

STATE OF EDTECH IN AFRICA PANEL DISCUSSION

The panel was moderated by David Hollow (Research Director, DFID EdTech Hub), with Wambura Kimunyu (CEO, Eneza Education), Annemijn Perrin (CEO, Digital Skills Foundation), Anthony Bloome (Senior Education Technology Specialist, USAID), and Asyia Kazmi (Global Education Policy Lead, Bill and Melinda Gates Foundation) as panelists.

The panelists started off by recognizing and emphasizing the fact that technology is levelling the playing field and extending access to quality and relevant learning for all, helping to ensure that all young people are provided with equal opportunities to learn.

They also outlined challenges and opportunities facing the EdTech ecosystem. Infrastructure can be challenging in terms of both devices and connectivity. For instance, most people on the continent only have access to basic feature phones, and this limits the type of content that can be delivered through those devices. However, local companies like Eneza have found ways to deliver

learning material on those devices, highlighting the importance of having local EdTech entrepreneurs who understand local realities.

The panel highlighted the need for all education stakeholders to work together. For example, in Côte d'Ivoire, there is a regular monthly meeting of all stakeholders in the education sector where challenges and opportunities are discussed, which helps education stakeholders to remain coordinated and aligned. Digital Skills Foundation shared such an approach in Rwanda, where they brought together the Rwanda Education Board, the Rwanda Development Board, and Rwanda Information Society Authority Innovation to discuss an approach to training civil servants in digital literacy.

The panelists highlighted the research gap that exists when it comes to EdTech in Africa and the desire to see this gap addressed. They recognized that research must be tailored to policymakers' needs, be relevant, and be used to address existing issues. It must also be drafted in a user-friendly way and disseminated widely.

UNLEASHING THE POSSIBILITIES FOR EDTECH IN AFRICA – THREE DEMONSTRATIONS

Carnegie Mellon University (CMU)
"Allo Alphabet" (Côte d'Ivoire) and "Robo Tutor" (Tanzania)

- CMU provided a demo of their tablet- and feature phone-based language learning applications.
- The demo highlighted the need to have a deep understanding of the problems before focusing on the solutions. Solutions are not just about technology: they must start with an understanding of existing systems and how young people learn as part of a "solution-finding process." Measuring and reporting outcomes is an essential part of the process. For example, the challenge of literacy is something that education technology was used to help improve in both Côte d'Ivoire and Tanzania. By understanding the different contexts in each country, CMU was able to develop two different approaches to essentially the same problem: Allo Alphabet in Côte d'Ivoire and Robo Tutor in Tanzania.

Kyatabu (Kenya)

- Kyatabu's demo focused on the fact that access to digital content that is engaging, fun, and interactive is often inconsistent across an education system and that there is a need to try to integrate content and learning management systems under one standardized platform that is available to everyone. This would allow for standardized content for teachers and learners, available through a free app, that would also be accessible to parents and communities.

Global e-Schools and Communities Initiative (GESCI)
African Digital Skills Initiative in Kenya, Tanzania, and Côte d'Ivoire

- "The African Digital Schools Initiative (ADSI) seeks to transform secondary schools into digital schools of distinction. It is designed specifically to build secondary-level students' 21st-century skills and teachers' innovative practice in a way that is responsive to the

needs of the marketplace and to the emerging knowledge economies and societies." — GESCI.

- Digital schools of distinction should become centres of learning for the wider community. In Kenya, Tanzania, and Côte d'Ivoire, GESCI is involving all teachers and other stakeholders. As a result, it is seeing 100 percent teacher attendance for the training on Saturdays and Sundays, and during after-school hours.

- The program provides for teacher certification of competency in ICT in a phased approach through a progression pathway from 'initial' to 'technology literacy' to 'knowledge deepening' to 'knowledge creation'.

- Parents and communities have pooled resources to buy more technology for the project.

- Enrollment has increased.

- Qualifications for teachers are important — GESCI has four levels of qualifications, working with Kenyan universities for accreditation: 'initial', 'e-enabled', 'e-mature', and 'e-confident'.

MINISTERIAL ROUNDTABLE PART 2: KEY CHALLENGES AND OPPORTUNITIES FOR EDTECH

The second half of the Ministerial Roundtable was moderated by Sizwe Nxasana (Group Founder and CEO, SIFISO Education Group) and engaged the Ministers in a brainstorming activity, building on the previous discussion, to identify the most pressing issues in education that can be addressed and scaled with the support of the Regional Centre for Innovative Teaching and Learning in ICT.

Key Takeaways

- A strong policy environment is needed; policies must be well articulated, but also actionable. There is a need to make sure there is strong alignment among all relevant ministries implementing parts of an ICT policy to support implementation.

- There is no getting away from the fact that infrastructure is needed and that it is costly. However, it is a worthwhile investment to make. It must also be accompanied by the training of those would-be users.

- Teacher/leader training and curriculum/content are essential. There is a need for continuous professional development for teachers, given the fact that technology keeps changing.

- There is a need for linkages and exchange of learning. The Centre, as an honest broker with nothing to sell, can facilitate this cross-learning.

- There is a great need for meaningful data management and coordination systems.

- Can access to education be extended using TV, radios, etc.?

Other Notable Moments

The Forum recognized Peter Tabichi, the winner of the Varkey Foundation Global Teacher Prize 2019. Peter is a Kenyan maths and physics teacher who has transformed learning outcomes for students in Kenya and donates 80 percent of his salary to the local community.

Two Mastercard Foundation Scholars — Daniel Mutia and Billy Byiringiro, both from the University of Edinburgh — also attended the Forum. In his address to the attendees, Daniel noted that if Africa is going to compete with the Ubers and the Airbnbs of the future, it will not be enough to "learn the basics" — Africa's youth will need to be competitive in ICT and at the forefront of areas like machine learning. Preparing young people for this challenge will require a paradigm shift.

CONCLUDING REMARKS

Her Excellency Professor Sarah Anyang Agbor, AU Commissioner for Human Resources, Science and Technology

Education is key to achieving "Agenda 2063: The Africa We Want." ICT is an enabler to access quality and relevant learning. Countries need to walk the talk. They need vision from policymakers and political will to do what must be done. The continent needs platforms for sharing and moving recommendations forward. We must make sure that the technology and pedagogy are connected.

We must invest in infrastructure, capacity, and skills development. We really need a paradigm shift and to focus on making sure that no African child is left behind. Tomorrow belongs to those who prepare for it today.

Joseph Nsengimana, Director, Mastercard Foundation Centre for Innovative Teaching and Learning in ICT

Joseph thanked participants for their contributions and identified the following next steps for the Centre in its efforts to advance the integration of ICT:
1. Identification of anchor countries and their roles in helping advance the Centre's work;
2. Development of a call for proposals for entrepreneurs to tackle the challenges identified at the Forum;
3. Development of a support program to assist the entrepreneurs in their work; and
4. Establishment of an Advisory Council for the Centre.

It was announced at the Innovating Education in Africa Expo 2019 that Expo 2020 will be held in Kigali, Rwanda. The Centre will collaborate with the AUC and the Rwandan government to make the Innovating Education Expo 2020 a successful event.