EDUCATION AND SPORTS SECTOR DIGITAL AGENDA
STAKEHOLDER ENGAGEMENT REPORT

INTRODUCTION
The greatest negatively hit sector in Uganda due to the COVID-19 pandemic is the education and sports sector. None the less the Government has been trying to see how best to continue delivering the education service to all learners in the country, amidst the pandemic. To permit learning continuity, various actors in the education sector have introduced a number of ICT initiatives which are very unevenly distributed across the country hence compounding the inequity problem. This state of affairs has called for a united front so that government entities can move in a harmonized manner while continuing to deliver services to the populace. In particular, the Ministry of Education and Sports realized the need for a harmonized digital agenda for the education sector.

DA Goal and Objectives
The goal of the digital agenda is to provide the necessary framework to optimize the co-ordination of diverse opportunities for the process of integration of ICT in education and sports and the institutionalization of an ICT culture. The specific objectives are:

i. To develop a consolidated and integrated strategic direction of how ICT shall facilitate and improve the delivery of digital literacy in the country
ii. To review, align, harmonize and synergize the existing fragmented initiatives into one overarching strategic framework
iii. To institute an integrated implementation approach, coordination and monitoring & evaluation mechanisms of ICT initiatives
iv. To align ICT initiatives to the objectives of the Education and Sports sector strategic plan; and
v. To effectively use and promote adoption of mature and emerging technologies

The Digital Agenda Task Committee and Digital Agenda Concept
To lead the development process of the Ministry of Education and Sports Digital Agenda, the PS Ministry of Education and Sports, in May 2020, appointed a Nine (9) Member Digital Agenda Task Committee (DATC), chaired by the Director, Directorate of Higher, Technical and Vocational Education and Training, Dr. Jane Egau Okou. The other committee members are: Dr. Fredrick Kitoogo, Dr. John Okuonzi, Dr. Nora Mulira, Dr. Paul Birevu Muyinda, Mr. Cleopas Mugenyi, Mr. Ben Mugisha, Mr. Patrick Muinda and Ms. Irene Lubega.

The DATC has so far developed the Digital Agenda (DA) Concept. The DA Concept has been approved by the Ministry of Education and Sports M&E Working Group. The DATC has now embarked on the development of the Digital Agenda. To have a participatory development process, the DATC choose to engage the education and sports sector stakeholders; namely: Education development partners (EDPs), MDAs, University Vice Chancellors and Regulatory and Examination Bodies. This report provides the findings of the engagements.

METHODOLOGY OF ENGAGEMENT
The DATC carried out focus group discussions with each category of stakeholders via a Zoom link. For each category, a focus group discussion guide was developed and administered. Generally speaking, the guide focused on the following themes:

i. ICT governance and frameworks
ii. ICT infrastructure development and connectivity

iii. ICT adoption and usage
iv. Adoption and implementation of ODeL
v. Usage of new technologies in teaching and learning
vi. The impact of COVID-19 pandemic

FINDINGS

ICT Governance and Frameworks

Table 1. ICT Governance and Frameworks

Governance Aspect	Freq	%age
Develop/Review ICT in education policy, legal framework and strategies	26	23.4
Ensure all stakeholder involvement in ICT in education initiatives	17	15.3
Put in place an ICT in education Security/safety/integrity/data recovery	15	13.5
Put in place an interoperability framework for systems integration	14	12.6
Put in place a planning and budgeting framework for ICTs in Education	12	10.8
Put in ICT in education sustainability/maintenance plan	11	9.9
Develop ICT in education change management plan	9	8.1
Put in place a robust M & E Framework for ICT in education	4	3.6
Put in place ICT in education Governance structure	3	2.7
Total responses received on this Variable	111	100

Source: Stakeholder Engagements

Develop/Review ICT in education policy, legal framework and strategies (n=26)
The digital agenda strategy should be anchored with a supportive policy and regulatory framework. The policy should address among others aspects of ICT use among the vulnerable, stakeholder involvement, ethical considerations, ICT use at different education levels, local content development, ICT use regulations, ICT waste disposal, accessibility policies, etc.

Ensure all stakeholder involvement in ICT in education initiatives (n=17)
The digital agenda should be inclusive. It should address requirements of all education and sports sector stakeholders including private sector players, MDAs, regulatory and examination bodies, EDPs, parents, etc.

Put in place an ICT in education Security/safety/integrity/data recovery (n=15)
Digital Agenda should address all data and system safety, security and integrity. It should also address issues of data recovery.

Put in place an interoperability framework for systems integration (n=14)
A number of information systems exist at all levels in the education and sports sector. These systems are in silos in some cases duplicating functionalities. The digital agenda should work towards harmonizing the silo-based system by putting in place an interoperability framework for systems within the sports and education sector.

Put in place a planning and budgeting framework for ICTs in Education (n=12)

A planning and budgeting framework for ICTs in Education will ensure harmonization of fragmented budgets for ICT in education initiatives. It will provide an accurate estimation of budget requirements for the ICTs needed in the education and sports sector. It will ensure that government prioritizes provision of resources for ICTs in education.

Put in ICT in education sustainability/maintenance plan (n=11)
Maintenance and sustainability of ICTs within education institutions remains a big challenge. The DA should ensure there are maintenance and sustainability plans for ICTs. An integrated Government wide approach and financing mechanisms for sustaining ICT initiatives should be put in place.

Develop ICT in education change management plan n=09)
ICT initiatives are new to the majority of stakeholders in the education ecosystem. Poor mindsets towards integration of ICTs in education are therefore expected. The need for putting in place mindset change plans and strategies arise. The plan will include: putting in place mobilization and community awareness avenues including a media strategy highlighting how evangelism for the digital agenda will be built.

Put in place ICT in education Governance structure (n=03)
A governance structure would provide a robust leadership and administration which is supportive for ICT integration in all ICT in education aspects. It will provide proper coordination channels for ICT integration and governance.

Put in place a robust M & E Framework for ICT in education (n=04)
A robust M & E Framework for ICT in education will re-inforce measurements of learning outcomes by developing clear performance oriented indicators to measure impact of digitalization on teaching and learning

ICT infrastructural Development and Connectivity

Table 2. ICT infrastructural Development and Connectivity

ICT infrastructure	Freq	%age
Provide for one to one ICT access devices for all learners and teachers	43	13.9
Zero rate educational Internet	38	12.3
Put in place Fast Internet network coverage across the country	36	11.7
Provide for tax exemption on educational technologies	35	11.3
Put in place Complimentary infrastructure	30	9.7
Put in place business confidence and continuity systems	29	9.4
Local development of equipment, systems and content	22	7.1
Establish district/parish ICT hubs	21	6.8
Put in place strategies for exploiting existing and emerging educational technologies	20	6.5
Provide assistive technologies for PWD	18	5.8
Put in place a framework for sharing critical ICT resources and services	17	5.5
Total responses to this Variable	309	100

Source: Stakeholder Engagements

Provide for one to one ICT access device for all learners and teachers (n =43)

Access devices are critical for the success of any digital agenda. According to respondents each learning institutions should have adequate ICT laboratories setup to permit one to one access to an Internet enabled device. Putting in place infrastructure that permit the concept of bring your own device could enhance access device ownership. A hire purchase system will as well encourage personal ownership of devices. Lowering the cost of acquiring ICTs could be another strategy for increasing access to ICTs.

Zero cost for educational Internet (n=38)
The cost of Internet data is too high to permit hassle free learning. Implementation of the education and sports sector digital agenda will succeed if the cost of internet is substantially reduced or zero rated for teachers and learners.

Put in place fast Internet network coverage across the country (n=36)
Leave no one behind. The entire country should have fast Internet network coverage so as not to leave anyone behind. All corners of the country should be covered with fast internet connectivity. A national Wi-Fi system should be established. Internet service providers should be required to establish Internet network protocols such as 4G and 5G across the entire country.

Provide for Tax exemption on educational technologies (n =35)
Educational technologies should be provided at an affordable cost. One of the strategies to make educational technologies affordable is importing them tax free or locally manufacturing them.

Put in place Complimentary infrastructure (n =30)
Digital learning requires pre-requisite complimentary infrastructure for the digital ecosystem. Digital learning cannot take place without electricity. Electricity should be installed in all corners of the country. Where hydropower isn't alternative power sources, e.g. solar power should be installed. However, deliberate effort should be made to ensure that the rural electrification drive covers each and every village in the country.

Put in place business confidence and continuity systems (n=29)
Business confidence and continuity is assured if system/data security and integrity is assured. It is assured if an organization is able to recover from a disaster. The digital agenda should address infrastructure needs related to data security, integrity, recovery and backup. For instance, in examination systems, data integrity and security is highly cherished.

Local development of equipment and systems (n =22)
The digital agenda should promote local manufacturing of educational technologies, software systems and learning content. This way, the cost of access devices is likely to lower and capacity built in the country for local content production.

Establish district/parish ICT hubs (n =21)
District and parish ICT hubs will encourage development of communities of practice in ICT in education use. They will provide central training and practice centers in different aspects of ICT pedagogy. They will increase access to ICTs and hence learning. They will reduce the digital device between urban and rural areas.

Put in place strategies for exploiting existing and emerging educational technologies (n=20)
Existing educational technologies have a number of educational affordances. Institutions should therefore use pedagogical affordances of available technologies. Additionally, institutions should put in place

strategies for exploiting emerging technologies within their context. Devices like radios, low end mobile phones, televisions have considerable pedagogical affordances that can be tapped.

Provide assistive technologies for PWD (n=18)
Leave no one behind and be inclusive at all education levels. The digital agenda should cater for all learners and teachers including those with disabilities. The digital agenda should therefore provide for assistive technologies.

Put in place a framework for sharing critical ICT resources and services (n=17)
Unity is strength. There are services for example Internet connectivity that can be acquired at low cost if they are acquired as a consortium. The digital agenda should provide a framework for sharing rare, critical and expensive systems for enhanced economies of scale.

ICT Adoption and Use

Table 3. ICT Adoption and Use

ICT Adoption and Usage Strategy	Freq	%age
Training of teachers and other stakeholders (parent)	57	31.1
Mindset change	34	18.6
Training of ICT instructors in teacher professional skills	16	8.7
Digitalize entire education value chain	15	8.2
Put in place Inclusivity avenues	12	6.6
Review teacher training curricula to include ICT pedagogy	11	6.0
Establish hubs for local content development, support and CPD	10	5.5
Research and development in ICT in education	9	4.9
ICT syllabus for primary and pre-primary	8	4.4
Partner with ICT service providers to provide infrastructure	6	3.3
Teacher involvement at all levels	3	1.6
Mandatory/compulsory ICT use	2	1.1
Total responses to this Variable	183	100.0

Source: Stakeholder Engagements

Training of teachers and other stakeholders (n=57)
Teachers ought to be proficient in the use of ICTs. They should therefore have basic ICT skills, skills for teaching with ICTs (ICT pedagogical skills), skills for developing pedagogical content and skills for supporting students. Other stakeholders such as parents must have skills to monitor their children work online. They should therefore also have training in ICT literacy. Training should not be a one off activity but should be continuous. Particularly important is that teachers must be equipped with skills for teaching with ICTs (ICT pedagogical skills). Hence ICT training should be embedded as one of the trainings in the teacher continuous professional development programme.

Mindset change (n=34)
New methods of doing work, require change management strategies for smooth transition. According to stakeholders, the digital agenda should have plans for change management. Plans could include but not limited to awareness campaigns and sensitization programmes for learners, parents, teachers, employers and government. The Digital Agenda should have clear channels for buy-ins.

Training of ICT instructors in teacher professional skills (n=16)
The majority of existing ICT instructors are not professional teachers. They are ICT professionals. They lack teacher professional training. The digital agenda should have strategies for providing these instructors with teacher professional skills.

Digitalize entire education value chain (n=15)
To spur adoption and usage of ICTs, the digital agenda should strive to digitalize the entire education value chain across all levels of education. Advert for admission, admission, teaching, learning, assessment, grading, administration, management, inspection and other education aspects should all be digitized. This will spur adoption and usage of ICTs across the value chain.

Put in place inclusivity avenues (n=12)
Use of ICTs should not be a reason for excluding women and other vulnerable groups such as PWD, refugees, the poor and minorities. The digital agenda should have clear inclusivity strategies so as to avoid leaving any one behind.

Review teacher training curricula to include ICT pedagogy (n=11)
Present teacher training curriculum do not have ICT pedagogy aspects or if they exist are out of date. The present curricula is teacher-centered. The digital agenda should put in place mechanisms for reviewing teacher training curricula. The curricula should be adopted to the different age levels – pre-primary, primary, secondary, tertiary and university. The reviewed curricula should promote learner centeredness and outcome based.

Establish hubs for local content development, support and CPD (n=10)
The digital agenda should provide for hubs for capacity development, developing local e-content, networking and collaborative development of local ICT solutions, provision of mobile quality ICT support, sharing of scarce ICT resources, etc. The hub will also discover and increase access to learning material.

Research and development in ICT in education (n=9)
At tertiary and university levels, the digital agenda should encourage research and development as a way of innovating new teaching and learning solutions.

ICT syllabus for primary and pre-primary (n=8)
Presently, there is no syllabus for ICT for both pre-primary and primary. Early development of ICT skills is a precursor to fast adoption and usage of ICTs. The digital agenda should strive to ensure that there is a syllabus for ICT at pre-primary and primary education levels.

Partner with ICT service providers (n=6)
The digital agenda should encourage partnerships for mutual benefit. The digital agenda should provide frameworks for outsourcing of infrastructure, ICT personnel and services for cost effective benefit of institutions.

Teacher involvement at all levels (n=3)
Teachers are at the center of education activities. They should be involved at all stages of introducing new solutions in the education value chain. The digital agenda should encourage e=involvement of teachers in the entire education value chain.

Mandatory/compulsory ICT use (n=2)
Whereas the digital agenda should have avenues for convincing teachers and learners to buy-in, in some instances, it should require all education institutions use ICTs as a mandatory requirement.

Adoption and Implementation of ODeL

Table 4. Adoption and implementation of ODeL

ODeL Aspect	Freq	%age
Induct/train stakeholders in ODeL pedagogy	37	21.0
Establish a country wide policy for ODeL	28	15.9
Establish an Open University of Uganda	26	14.8
Invest in ODeL pedagogy	23	13.1
Setup specialized units within institutions to oversee ODeL	19	10.8
Setup standards for certifying ODeL and its systems	15	8.5
Implement ODeL using blended learning pedagogy	12	6.8
Harness the pedagogical affordances of available ODeL technologies/systems	8	4.5
Ease acquisition of ODeL devices and systems and lessen cost of connectivity	5	2.8
Adopt OERs to support ODeL	3	1.7
Total responses to this Variable	176	100.0

Source: Stakeholder Engagements

Induct/train stakeholders in ODeL pedagogy (n= 37)
The DA should ensure plans and strategies are in place for training or inducting all stakeholders of institutions wishing to run or running ODeL programmes in ODeL pedagogy and digital technologies. The stakeholders include students, teachers, administrators, support staff and parents. Capacity building for teachers for e-pedagogy, particularly need to be emphasized in the digital agenda. This will enable the development of local content.

Establish a country wide policy for ODeL (n-28)
The country lacks a policy specifically targeting ODeL. According to respondents, the an ODeL policy is important to guide the development and investment in ODeL. The digital agenda should ensure that an ODeL policy is developed and operationalized.

Establish an Open University of Uganda (n=26)
To inculcate the acceptance of ODeL in the country and leverage ODeL affordances, respondents were of the view that the country establishes an open university. “The digital agenda should establish an open university to foster investment and penetration of ODeL pedagogy in the country”, said one of the respondents. “The open university will democratize education and ensure no one is left behind”, indicated another respondent.

Invest in ODeL pedagogy (n = 23)
UNESCO is emphatic on the need to emphasize learning before technology. The UNESCO representative said, “The taskforce should realize that IT cannot be controlled. Technology should be used as tool to achieve learning outcomes. Technology should be used as an aid to quality

learning. Therefore, teachers and leaners need to know how to teach and learn with technology respectively". The digital agenda should emphasize investing more in the ODeL pedagogy which in-turn will then guide the investment in supporting technology.

Setup specialized units within institutions to oversee the implementation of ODeL (n=19)
Institutions with successfully embraced ODeL have created separate units to oversee its implementation. The units provide backstopping support functions to those institutions in all aspects of ODeL, especially pedagogical support functions. The units are centers of ODeL support. The digital agenda should emphasize this arrangement in any ODeL implementation.

Setup standards for certifying ODeL and its systems (n=15)
ODeL should be regulated for quality assurance. The digital agenda should establish minimum standards for certifying and accrediting ODeL institutions, study programmes and courses. According to the representative from NCHE, the "NCHE ODeL minimum standards could be a starting point for formulating the education and sports sector minimum ODeL standards".

Implement ODeL using blended learning pedagogy (n=12)
Pure online based ODeL is not feasible in the Uganda context due to challenges of connectivity, complimentary infrastructure, the engrained culture of face-to-face teaching and learning and access devices. So blended pedagogy should be adopted in any ODeL implementation in Uganda. According to one of the stakeholders, "…there should be a harmonization of face to face with online teaching and learning". Another stakeholder said, "ODeL should be supported in decentralized centers across the country". Therefore, the digital agenda for the next five (5) years should put emphasis on implementing ODeL using blended pedagogy.

Harness the pedagogical affordances of available ODeL technologies and systems (n=8)
According to UNESCO representative at the stakeholder engagement meeting, "teacher trainees are very low in ICT skills. As such, the digital agenda should encourage harnessing the pedagogical affordances of available technologies rather than clamoring for technologies that are not within the reach of majority. This way we will avoid the social divide likely to be created when new and modern technologies are adopted when they are only accessible by a few". The digital agenda should be all embracing and should ensure no one is left behind.

Put in place strategies for easing acquisition of ODeL devices and systems and lessening cost of connectivity (n=5)
Successful ODeL implementation among others depends on teachers and learners having easy access to access devices and hassle free and affordable Internet connectivity. The digital agenda should put in place strategies for enabling this pre-condition.

Adopt OERs to support ODeL (n-3)
As the name implies, open, distance and eLearning, should adopt an open movement culture. The digital agenda should emphasize the need to produce and consume open systems and resources. It should emphasize the need for openness. Meaning in ODeL institutions there should be no restrictions to entry and exit on academic programmes and courses. It should permit flexibility which is a pre-requisite for lifelong learning.

Usage of New and Emerging Technologies in Teaching and Learning

Table 5. Usage of New Emerging Technologies in Teaching and Learning

Usage of new emerging technologies in pedagogy	Freq	%age
Refresher training for continuous professional development	29	28.4
Inclusivity	21	20.6
New technologies should be aligned with country's priorities	17	16.7
Make new technologies affordable	12	11.8
Incubation centers for creating and adopting new technologies	11	10.8
Revise school policies/ regulated use	8	7.8
Maintenance and sustainability	4	3.9
Total responses to this Variable	102	100.0

Source: Stakeholder Engagements

Refresher training for continuous professional development (n-29)

The digital agenda should put in place strategies for providing refresher trainings to teachers and other stakeholders. This will enable the trainees to accept and adopt new emerging technologies for pedagogy.

Inclusivity (n=21)

The digital agenda should ensure that new technologies being adopted do not create digital divides. New technologies should be all inclusive hence leaving no one behind.

New technologies should be aligned with country's priorities (n=17)

New technologies should aspire to enhance industry – education institution linkages so as to address skills mismatches. They should be amplifying the development of 21st Century skills among young people. They should be integrate-able with the reigning curricula or should be able to support the teaching of the reigning curricula.

Make new emerging technologies affordable (n=12)

A framework for lessening the cost of educational technologies, whether existing or emerging, should be put in place by the digital agenda. This will make educational technologies affordable to teachers, learners and other stakeholder hence encourage uptake.

Establish incubation centers for creating and adopting new technologies (n=11)

Incubation centers promote local innovations. They can fast track the adoption of new and emerging technologies such 4IR and 5IR technologies. They can promote development of local systems such as the labor management systems that can be developed from data with regulatory and examination bodies, graduate tracer system, etc. The digital agenda should emphasize establishment of incubation centers at higher education institutions for researching, creating and adopting new educational technologies.

Revise school policies/ regulated use (n=8)

Existing pre-primary, primary and secondary school policies bar use of technologies such as mobile phones in school premises. The stakeholders were of the view that these restrictive policies need to be revised to cater for regulated use of these educational technologies. The digital agenda should provide for revision of school policies that bar employment of transformative pedagogies and technologies to enable for free or regulated use.

Maintenance and sustainability (n=4)

As it where, any technology requires maintenance if one is to gain sustainable use of the same. The digital agenda should provide for maintenance and sustenance of new technologies for teaching and learning.

The Impact of COVID-19 Pandemic

According to stakeholder engagement findings, The COVID-19 pandemic through the education and sports sector off the radar. It disrupted education the education system in the country and put learning of more than 15million learners to a standstill. The pandemic accelerated the need to adoption of educational technologies but in so doing it widened the digital divide between rural and urban population. It created a haphazard implementation of ODeL in some education institutions located mainly in the urban centers.

Though the digital agenda responds to the challenges occasioned by the pandemic, it also provides a long lasting solution into the adoption of transformative pedagogies and technologies. However, with Covid-19 pandemic, there is an expanded scope for use of ICT to increase access to service delivery.

CONCLUSION AND RECOMMENDATIONS

The digital agenda for the education and sports sector emphasizes ICT as a tool for pedagogical development rather than as a means in itself. Stakeholders have guided the DATC in establishing the most feasible digital focus areas. These focus areas should inform the development of the digital agenda strategy.

APPENDIX A: REPORTS OF VARIOUS CONSULTATIONS