NATIONAL COUNCIL FOR HIGHER EDUCATION

THEME:

"Enhancement of teaching, learning and assessment with Open and Distance e-Learning (ODeL) in higher education."

THE 4TH NCHE ANNUAL HIGHER EDUCATION CONFERENCE PROCEEDINGS

14TH - 15TH SEPTEMBER, 2022

THE 4th ANNUAL HIGHER EDUCATION CONFERENCE

ORGANIZED BY

NATIONAL COUNCIL FOR HIGHER EDUCATION

A Blended Conference Held at Hotel Africana, Kampala, UGANDA.

14th -15th September, 2022

THEME: Enhancement of teaching, learning and assessment with Open and Distance e-Learning (ODeL) in higher education.

Thematic Areas:

- Experiences and lessons for learners and teachers in e-learning
- ICT Skills Development, Regulatory Policy framework and strategies
- Higher education online delivery, learning and assessment
- Content development and pedagogical skills under the new norm
- Development of online research networks and resources for Higher Education

Welcome Remarks

On behalf of the National Council for Higher Education, I welcome you all to the 4th Annual Higher Education Conference. In a special way, I welcome the Chief Guest, the First Lady and Minister of Education and Sports, Hon. Janet Kataaha Museveni, for accepting our invitation and request to officiate at this function. I also extend our gratitude to session chairpersons, keynote speakers, and panelists for accepting our invitation and the roles assigned to you. This year's Conference is blended, where we have both physical and online participation. It is the second time we are having participation online- the first one was last year and was purely virtual.

Hon. Minister, due to the closure/lockdown of all higher education institutions by Government during early 2020, as a result of the Covid-19 pandemic, the NCHE developed the Emergency ODeL Guidelines for institutions, with the aim of ensuring continuity of learning. Only programmes that had been accredited before the pandemic were approved to be implemented using the Emergency ODeL System. Institutions that wished to conduct final examinations using the same were required to seek separate approval from NCHE. Out of the over 250 institutions regulated by NCHE, only 48 (19.2%) have been approved to implement the Emergency ODeL system. Of these, 37 institutions (77%) are Universities, 3 (6.3%) Other Degree Awarding institutions and 8 (16.7%) are Other Tertiary Institutions. Out of the 54 universities accredited in Uganda, 37 (68.5%) were approved to mount the emergency ODeL. Other Tertiary Institutions (OTIs) registered a low turn up as only 8 (4.5%) out of the 178 registered by NCHE are implementing the ODeL system, of the eight OTIs approved, only 1 (12.5%) is a public OTI.

The theme of the Conference is "***Enhancement of teaching, learning and assessment with Open and Distance e-Learning (ODeL) in higher education''*** This year's Conference aims at enhancing the capacities developed during the implementation of the Emergency ODeL during the COVID pandemic, enrich and improve the teaching and learning and how the learners are assessed using the ODeL system. In addition, the Conference will avail institutions and individuals an opportunity to share experiences and innovations in the teaching, learning and assessment using ODeL as well as disseminate their research findings.

We appreciate universities and other institutions that had planned ahead of time and installed learning platforms which enabled them to transition their contact with students seamlessly to ODeL

and so, provided a good example to others. They also provided useful advice to the NCHE while developing guidelines for ODeL.

As we roll out ODeL, NCHE remains committed to academic integrity, quality and standards which are non-negotiable and without which, we will give false education and deliver inadequate knowledge and skills that will not contribute to development and solving the socio-economic and health challenges that are ever increasing. I, therefore, call upon institutions to bear with the NCHE and other regulators when they query facilities and processes that do not meet the set standards or, which have not been approved.

Hon. Minister, NCHE has continued to monitor the implementation of ODeL in institutions and we have found out that, there is still resistance by some teachers and learners, institutions have limited funds to implement ODeL yet it is expensive in terms of having the equipment and internet connectivity, among others. Other challenges have included difficulty in monitoring students to ascertain if learning is taking place. There are also concerns about inclusivity of people with disabilities both teachers and learners, as well as, difficulties in running practical programmes using ODeL.

We, therefore, recommend that institutions should be supported to have collaborations or MoUs with service providers for cheap laptops, other equipment and internet connectivity. There is also need for continuous training and sensitization of teachers and learners on ODeL. Institutions need to indicate on the admission letters that the programme a student is admitted into will be run using ODeL to avoid resistance. Examination monitoring ought to be strengthened and the challenges faced by people with disabilities addressed.

The NCHE would like to thank the universities and Other institutions of higher learning which have embraced the implementation of the Emergency ODeL system that has enabled continuity of teaching and learning. It was important to keep our students learning, especially knowing that their counterparts in the developed countries were continuing to study remotely. I would like to challenge all institutions to ensure quality in the teaching, learning and assessment while using ODeL. As NCHE, we will continue to monitor institutions for compliance and give guidance where it is needed.

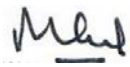
Let me take this opportunity to remind institutions that in August 2019, Minimum Standards for the implementation of ODeL in higher education were sent out to them. These were to guide institutions to develop programmes for delivery using ODeL and to also be used by NCHE to accredit programmes. You are, therefore, encouraged to develop programmes to be specifically implemented using ODeL and submit them for accreditation. After the Covid-19 pandemic, the emergency ODeL guidelines will not apply.

It is our hope that our engagement at this Conference will provide opportunities for information sharing, benchmarking, networking and improvement in the implementation of ODeL. We need not look behind but forward, ODeL is the way to go.

Lastly, Hon. Minister, allow me to inform you that NCHE will be marking 20 years of operation next year. Details will be availed at an appropriate time.

Ladies and gentlemen, it is now my pleasure to invite the Chairperson of the Council to make his remarks.

THANK YOU FOR YOUR ATTENTION



Professor Mary J.N. Okwakol (PhD)

Opening Remarks

I take this opportunity to welcome you to the 4th Annual Higher Education Conference 2022, one of the two premier annual events of Council for 2022.

In a special way, allow me to welcome you, The First Lady and Hon. Minister of Education and Sports, our line Minister, for accepting to officiate at this occasion. This is the second time you are making time to officiate at our functions. Last year in November, you officiated at the 12th Annual Higher Exhibition. We feel greatly honoured.

Our Chief Guest, the Council as established by the Universities and Other Tertiary Institutions Act, 2001 as amended, is mandated to among many other functions to set up and ensure standards of courses of study. To perfect this function, the Council approved the Open Distance and Electronic Learning (ODeL) to enable Higher Education Institutions to vary their methods of teaching, learning and assessment. With the outbreak of COVID 19, we reached out to ODeL, and create an emergency ODeL, to ensure that learning did not stop but continued in higher education institutions.

The use of ODeL has since become an important factor in higher education. It is therefore, an excellent opportunity to meet together as representatives for higher education and with our stakeholders and exchange opinions focusing on how to use ODeL to promote teaching, learning and assessment in higher education. It is equally important to ensure the quality of higher education when making such a promotion.

Hon. Minister, this is one of the major tasks before us in this conference. ICT has become a driving force in the delivery of education thus introducing important implications for the provision of education. The introduction of ODeL which is a fairly new mode of delivery of higher education is highly desirable, in that, it offers increased and diversified learning opportunity to all.

However, several challenges remain to be confronted. The ED has highlighted on some of these challenges but allow me Hon. Minister, to single out the challenge of assessment under ODeL. Many institutions running ODeL have been under spotlight when it comes to assessment. The need for academic integrity and self-regulation have hang in balance. And this is why we came up with this theme "***Enhancing teaching, learning and assessment with ODeL in higher education"*** in order to compare views and take counsel to address this challenge among many other challenges.

As we embrace ODeL in our institutions, there is need for government to support institutions of higher learning by putting up infrastructure that supports virtual learning, having a nationwide internet connectivity and a subsidized policy for ICT equipment to enable institutions and students afford the system.

I now take this opportunity to welcome you, our Chief Guest, the First Lady and Minister of Education and Sports to make your remarks and also open the 4th Annual Higher Education Conference 2022. Mama you are welcome.

Prof. Eli Katunguka-Rwakishaya

CHAIRPERSON, NCHE

Official Opening

I begin by giving thanks to the Almighty God for His protection and enabling us to gather today to deliberate on matters of Higher Education.

On behalf of the Ministry of Education and Sports, I would like to thank the National Council for Higher Education for organizing this Conference. I am very pleased to see so many institutions of higher learning - Universities and Other Tertiary Institutions, represented. I am delighted to be with you.

I am pleased to learn that the purpose of this 4th Higher Education Conference is to fulfill the mandate of disseminating information on higher education. It is important that the National Council for Higher Education fulfills its role of promoting, developing and disseminating information on higher education for the benefit of the people of Uganda.

The Uganda Vision 2040 identifies human capital development, which is a product of education, as one of the fundamentals that accelerate the country's transformation. The East African Community Vision 2050 also emphasizes inclusive and equitable quality education, promotion of learning opportunities and skills through science, technology and innovation. This therefore makes the education sector a key instrument in the growth and development of society as it is the one through which other sectors access the human resource. All eyes are on the education sector to help the country achieve its national development goals.

The theme of the conference "***Enhancement of teaching, learning and assessment with Open and Distance e-Learning (ODeL) in higher education''*** is timely, and merits our focus. The Covid 19 pandemic hit the world and negatively impacted on all higher education institutions. It was through Open and Distance electronic Learning (ODeL) that institutions continued with teaching and learning during the lockdowns. In this regard, I commend the National Council for Higher Education for developing guidelines for adoption of an Emergency ODeL system that enabled continuity of teaching and learning in Higher Education institutions during this difficult period. Your continued guidance to institutions that are implementing ODeL is also much appreciated.

The Ministry of Education and Sports is looking at ODeL as the strategy institutions in the education sector should adopt. This is because it increases enrolment of eligible learners, reduces the pressure and demand for physical scholastic materials and facilities, increases the teacher – learner ratio and provides a solution for the unforeseen emergencies within the education sector. In addition, it is flexible in terms of time and distance, and does not discriminate in terms of age, gender, origin or physical ability. Through the Education and Sports Sector Strategic Plan (ESSP) 2020/2021 – 2024/2025, the Ministry intends to strengthen ODeL by mainstreaming it in all institutions of higher learning as one of the strategies that will ensure increase in access

to higher education and enrolment. As well put by one education technology expert, Elliot Masie, "*we need to bring learning to people instead of people to learning"*.

As a Ministry, we set up a Digital Agenda Technical Committee charged with providing strategic guidance at all levels of education. Fortunately, the National Council for Higher Education is represented on that Committee. The Committee is in final stages of preparation of the Digital Agenda Strategy, aligned to NDP III which highlights adequate human capital that facilitates increase in productivity and technological growth. The National ICT Policy 2014 has provided a general framework for the Ministry to develop the Digital Agenda for the sector.

In an effort to enhance ICT capacity in higher education, my Ministry with support of our development partners - the African Development Bank (ADB), successfully implemented the Higher Education Science and Technology (HEST) project in 6 universities, two Other Degree Awarding Institutions and the National Council for Higher Education as the regulator. The project rehabilitated and equipped Science Technology and Innovation learning facilities, improved ICT connectivity, supported ICT broadband backbone and networks so as to increase accessibility. We are aware that although few and only public institutions benefited, the Ministry will review the list of beneficiaries in the projects to come in future.

As you are well aware, the Ministry has established the Education Policy Review Commission aimed at generating recommendations and a draft white paper for the Ministry to be presented to Cabinet and ultimately to Parliament. It will incorporate all the emerging issues and identify gaps within the education sector and ways to address them. I call upon all higher education stakeholders to make necessary contributions to the Commission.

I am convinced that this Conference will provide strategies, solutions and recommendations to institutions and government on how to enhance the teaching, learning and assessment with ODEL in higher education. As a Ministry, we look forward to receiving recommendations of the conference.

I once again thank the Council, Management and staff of NCHE for organizing this Conference.

I now declare this 4th Annual Higher Education Conference officially opened.

For God and my Country.

Hon. Janet Kataha Museveni

FIRST LADY AND MINISTER FOR EDUCATION AND SPORT

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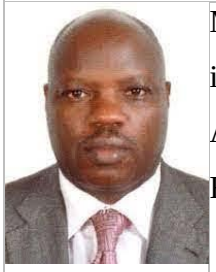
KEYNOTE SPEAKERS	
	**Ms. Azra Nazeem** is Director Blended and Digital Learning and a faculty member at the Aga Khan University. She is responsible for leading the cross-institutional advancements in online, blended, and digital learning through faculty and staff development, innovation, consulting with faculty on online and blended curriculum design and leading digital learning strategy initiatives. She is a Senior Fellow of the UK Advance Higher Education With twenty years of experience in countries like Pakistan and those in East Africa. Ms Azra is regarded as one of the foremost experts on technology in education in challenging contexts. She has designed and led numerous programmes focusing on the use of technology across various educational contexts. She has also mentored young EdTech entrepreneurs. Her current research explores the design and use of digital learning environments, and issues of digital inclusion, safety and accessibility in challenging contexts. She is a recipient of the Aga Khan University's "Innovation Impact Award of Distinction" in 2022.
	**Professor Paul Prinsloo** is Research Professor in Open Distance Learning, Department of Business Management Science, University of South Africa (UNISA). His academic background includes fields as diverse as theology, art history, business management, online learning, and religious studies. Paul is an established researcher and has published numerous articles in the fields of teaching and learning, student success in distance education contexts, learning analytics, and curriculum development. His current research focuses on the collection, analysis and use of student data in learning analytics, graduate supervision and digital identity.

SESSION CHAIRPERSONS	
	Mr. Arthur Babu Muguzi is the NCHE Director Finance, Planning and Administration. He is A certified Public Accountant of Uganda (CPAU); A fellow of the Chartered Certified Accountant of UK (FCCA-UK) and holds a Master's degree in Business Administration-Finance, Makerere University; Bachelors of Commerce, Makerere University; Arthur worked at Tax Appeals Tribunal, Ministry of Finance for three years and served as an Accountant. At the Inception of NCHE on 1st April 2003 joined the Team as a Finance Officer and later served as Principal Finance Officer for six years. He has vast experience in Government Accounting, Higher Education Finance Management and Quality Assurance.
	**Hon. Eng. Abigaba Cuthbert Mirembe** is Deputy Chair Education and Sports Committee of Parliament. He is a Ugandan Politician and Engineer. He represents Kibale County, Kamwenge District in the Parliament of Uganda
	**Eng. Dr. Dorothy Okello** is Chairperson UCC and Dean, School of Engineering at Makerere University, and a researcher with net Labs! UG, a research Centre within the Department of Electrical and Computer Engineering whose model is to strive for a balanced critical mass of research, innovation and commercialization in communications and networking. She is also Director of Innovation at Resilient Africa Network (RAN), Makerere University School of Public Health.
	**Dr. Lawrence Muganga** is Vice Chancellor Victoria University. Dr Muganga is an Education Thought-Leader, Professor of Education, award winning best-selling author, international curriculum speaker, and passionate about changing the education factory called school.

	**Dr. Nora Mulira, Director** ICT, Research and Innovation, NCHE. She has extensive professional experience as a Systems Analyst, academician, and researcher in the ICT4D areas of ICT Policy Analysis and digital reform. Among her notable research contributions are the World Bank /(InfoDev Initiative for the Development of Uganda's Information Infrastructure Agenda (DIIAUP), which developed the foundation of Uganda's national ICT policy framework.
	**Dr. Jenipher Twebaze Musoke,** Chairperson ICT Research and Innovation Committee, NCHE. Dr. Jenipher Twebaze Musoke is the Coordinator of Research for BRAC Africa, leading Research and Evaluation Units in South Sudan, Uganda, Liberia, Sierra Leone and Tanzania. Dr Jenipher has extensive experience in supervising research, survey designs and implementation including conducting field research in developing countries.
	**Dr. Maxwell Otim Onapa,** FUNAS Director Science, Research and Innovation. He is Chairman of the Institute Research Advisory Board (IRAB) at Uganda Management Institute – UMI. He is an accomplished scientist currently working as Director of Science, Research and Innovation at the Ministry of Science, Technology and Innovation where he provides strategic leadership in Research and Innovation, Intellectual Property Management, Technology Development; and

SESSION TWO: Experiences and lessons for learners and teachers in e-learning

Keynote Address:

Enhancement of teaching, learning and assessment with ODeL in higher education

Speaker: **Ms. Azra Nazeem,**

THE 4th NCHE ANNUAL HIGHER EDUCATION CONFERENCE 2022
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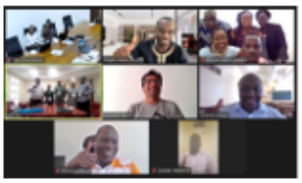

Enhancement of Teaching, Learning and Assessment with ODeL in Higher Education: Possibilities & Challenges

Azra Naseem
Director, Blended & Digital Learning, Network of Quality, Teaching & Learning,
Aga Khan University

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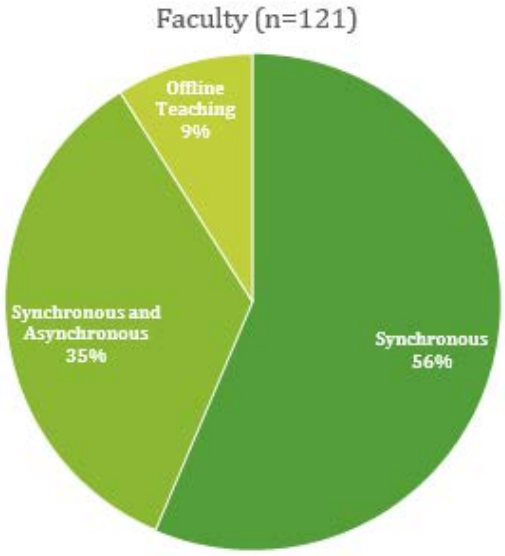
Aga Khan University

- Multi-country, multi-campus university
- Common standards
- Opportunities for students, faculty & staff to work across campuses

COVID-19 Response by AKU

Network of Quality, Teaching and Learning

Teaching Modalities Used



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Challenges Faced by Students

- **Access to Technology and Connectivity**
  - "... I didn't have internet access ..."
- **ODeL Pedagogy**
  - "live lecture without providing recorded session"
  - "group-work especially in an [Online] environment"
  - "[Clinical Skills sessions] require practical work which couldn't be done online"

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ODeL Possibilities

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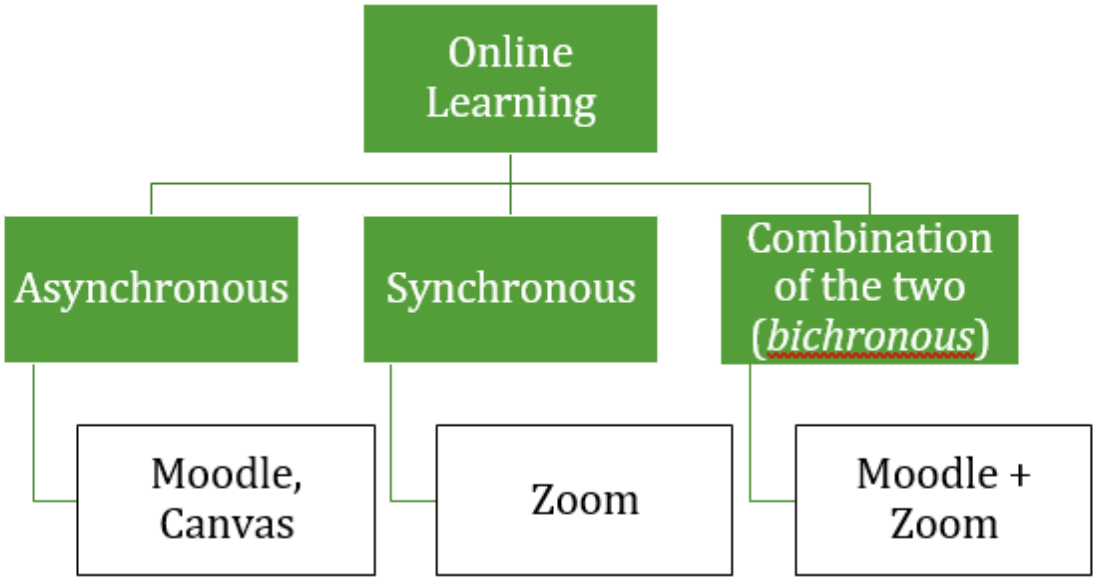
Online Learning



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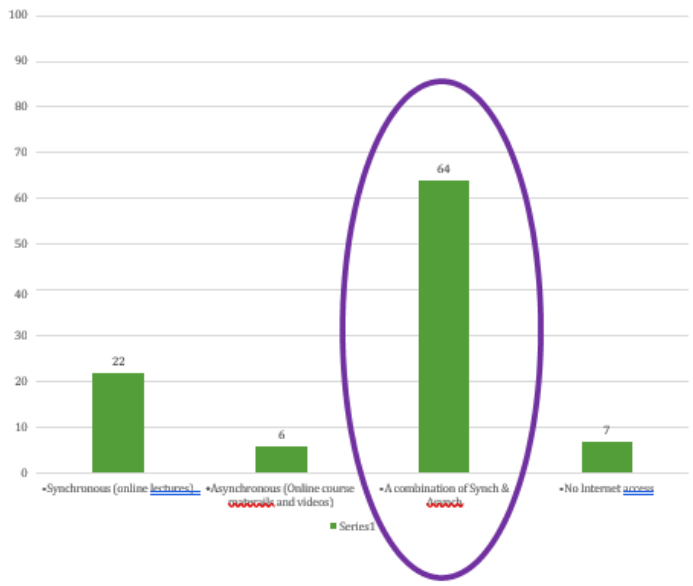
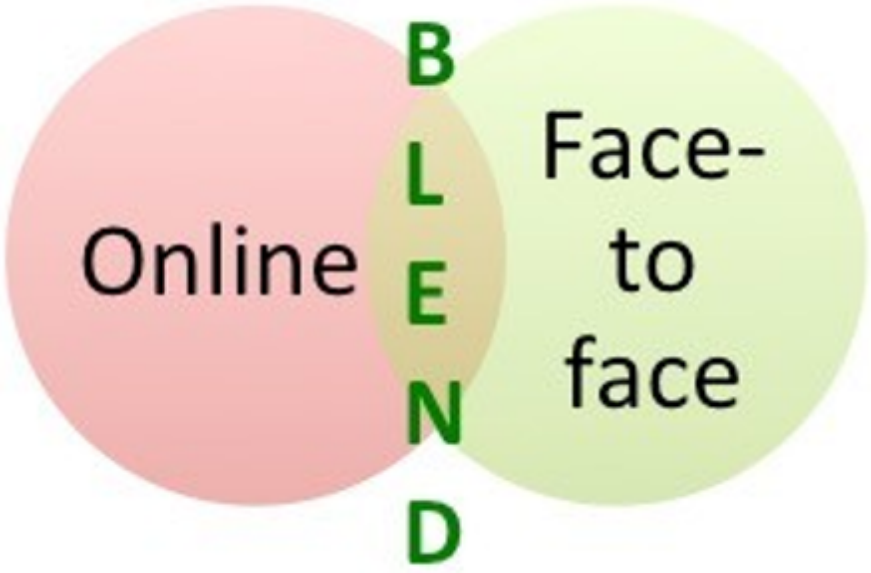
Students *prefer* the Combination



Blended Learning

- Integration of the best pedagogical practices of in-person and online learning in a balanced and thoughtful manner (Garrison & Vaughan, 2008)



HyFlex Teaching

- Hybrid and flexible teaching methods
- Same lesson taught simultaneously in three different formats:
  - in-person (e.g., classroom),
  - synchronous online (e.g., via Zoom), and
  - asynchronously online (e.g., via LMS)

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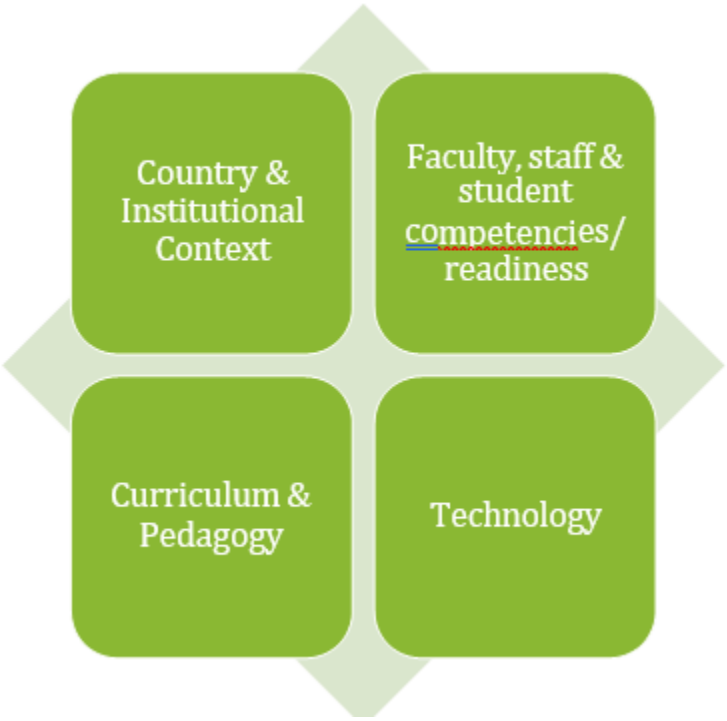
Selecting the *right* approach



Context

Country

- Regulartory; policies; infrastrcuture

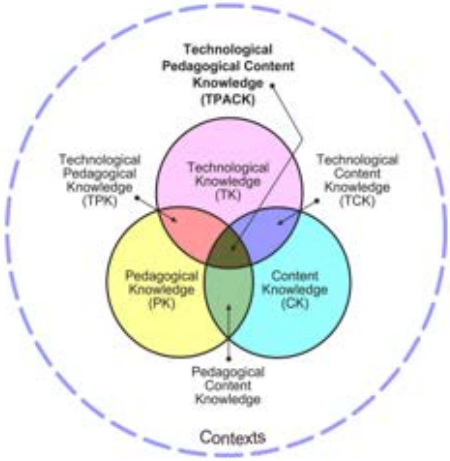
Institutional

- low-bandwidth solutions
- funds and resources
- academic support staff
- digital library services
- learner support
- faculty professional development
- policies (e.g., BYOD, faculty protected time, workload and promotion/recognition)

Individual Readiness

Faculty, Staff and Student readiness

- Competencies
- Attitudes
- Access



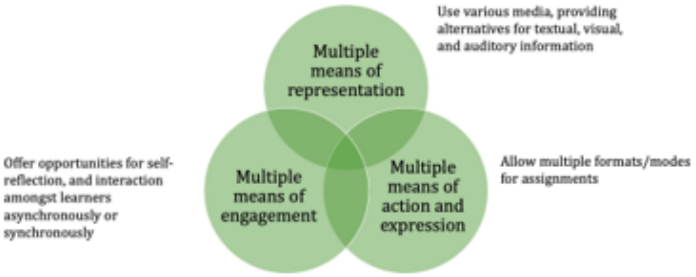
http://tpack.org/

Curriculum & Pedagogy

Aligning technology with pedagogy & outcomes

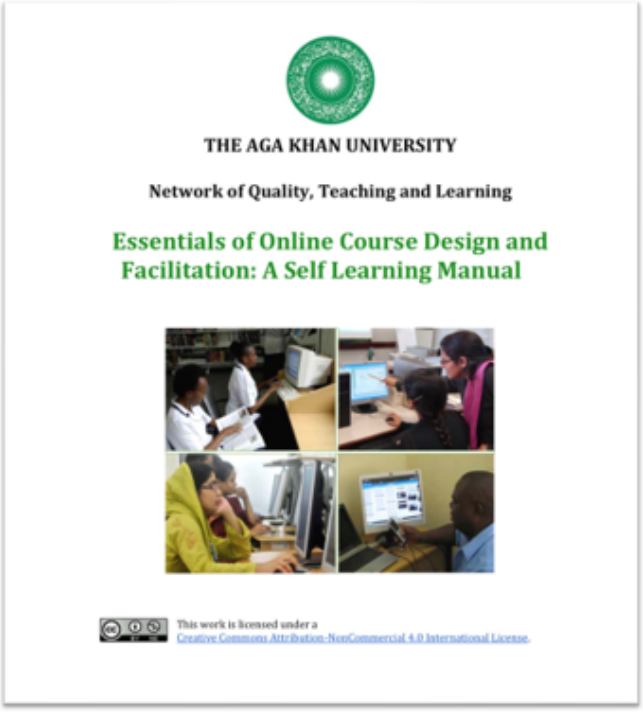
- Modality (or combination) to best support the learning outcomes
- Teaching approaches
- LMS Analytics
- Micro-credentialing

Universal Design for Learning



Good Practices and Lessons

https://www.aku.edu/qtl/resources/Pages/blended-digital-manual.aspx



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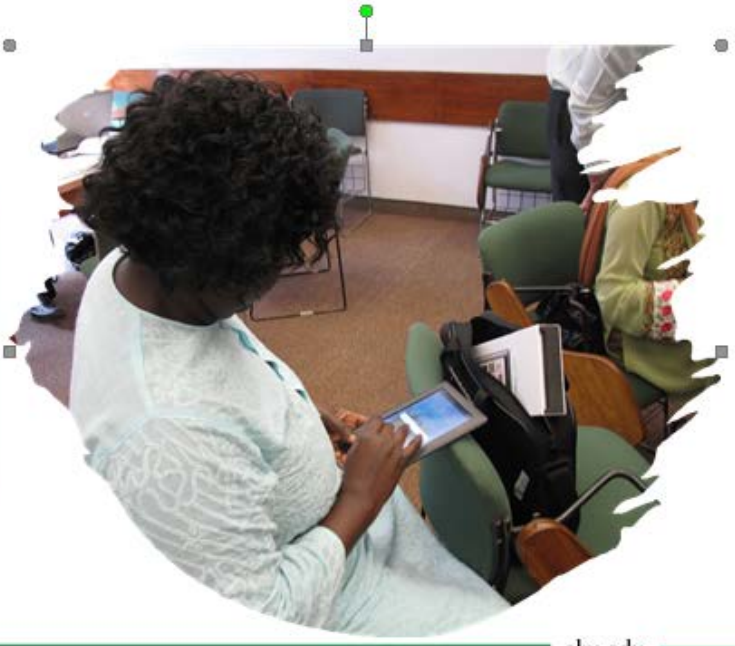
Network of Quality, Teaching and Learning

Essentials of Online Course Design and Facilitation: A Self Learning Manual

Technology

Technology access & accessibility

- Hardware, Software, Bandwidth
- User support, Literacy, Ease of use
- Electricity
- Cost
- Accessibility, Privacy, safety



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Thank you

Asante Sana

Please share feedback on:
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Presentation: ODeL experiences and lessons for Higher education

Speaker: Assoc. Prof. Aaron Mushengyezi

Vice Chancellor, Uganda Christian University

NATIONAL COUNCIL FOR HIGHER EDUCATION

4th Annual Higher Education Conference

14-15 September 2022

ODeL Experiences and Lessons for Higher Education

Assoc. Prof. Aaron Mushengyezi

Vice Chancellor, UCU

UCU At A Glance

- Uganda Christian University (UCU) is a higher education institution established by the Church of Uganda on 5th October 1997 in response to a call for quality, holistic university education with a value-based approach.
- UCU replaced the historic Bishop Tucker Theological College (1913-1997).
- In 2004, UCU became the first private university to be chartered by the government of Uganda.

Overview

- **Student Population:** About 13,000 students spread across 3 campuses and 2 Colleges: UCU Main Campus, Kampala and Arua Campus, Bishop Barham University College in Kabale, and Mbale University College.

- **Alumni:** 169,000 alumni spread across the globe.

Students Have Embraced e-Learning

ODeL Experiences at UCU

ODeL Experiences...

What was the ODeL Enabling Environment at UCU?

- UCU had a functional (albeit small) E-learning Centre and this enabled it switch to ODeL when the pandemic hit us. The centre was then upgraded with significant financial investment.
- The university had reviewed its policies on examinations to include other ODeL forms of assessment, such as online assessment, take-home examinations, etc.
- UCU took advantage of NCHE's Emergency ODeL policy to run its programmes online and in a blended manner.

ODeL Experiences...

ODeL Enabling Environment at UCU

- We hosted teams from NCHE, MOES, and Ministry of Health to assess our readiness for online learning and assessment. All the visiting teams commended UCU's readiness.
- Laptop policy for First Year students: We did a survey before launching online learning and about 95% of UCU students had gadgets to use.
- Rigorous online orientation and training programmes for staff and students helped to prepare them for online learning and assessment.
- Free access to UCU online learning resources through zero-rated sites via MTN.

ODeL Successes

- We opened for a new Academic Year online on 15th October 2020. This allowed us to complete the Easter Semester examinations using ODeL formats.
- UCU conducted an online semester during the COVID-19 lockdown: September 2020 to January 2021 and we implemented blended learning in 2021 whenever lockdowns were lifted.
- We successfully adopted digitization: e-application; e-meetings; online pre-entry testing; e-voting for Guild elections; virtual graduation; etc.
- Because the university adopted online learning early, all our students were able to advance in their studies seamlessly.

Lessons for Higher Education?

- Mindset change to "business unusual: Training and orientation of students and staff is important for adoption of ODeL during crisis moments such as COVID lockdown we went through.
- ODeL adoption should be a mainstay at our universities because ODeL programmes are on high demand. With the end of NCHE emergency ODeL, we are reviewing all our degree programmes to make them ODeL ready, and many have already been approved.
- HEI need to invest in OdeL infrastructure, but ODeL adoption depends mainly on how we prepare staff and students to embrace and use it.

Lessons for Higher Education?

- HIE adoption of ODeL was crisis-driven. But what is our level of crisis preparedness?
- Resilience should be an integral plan for our **risk management** in HEIs. Our resilience capability will be judged by our:

  a. Crisis/disaster awareness or readiness.

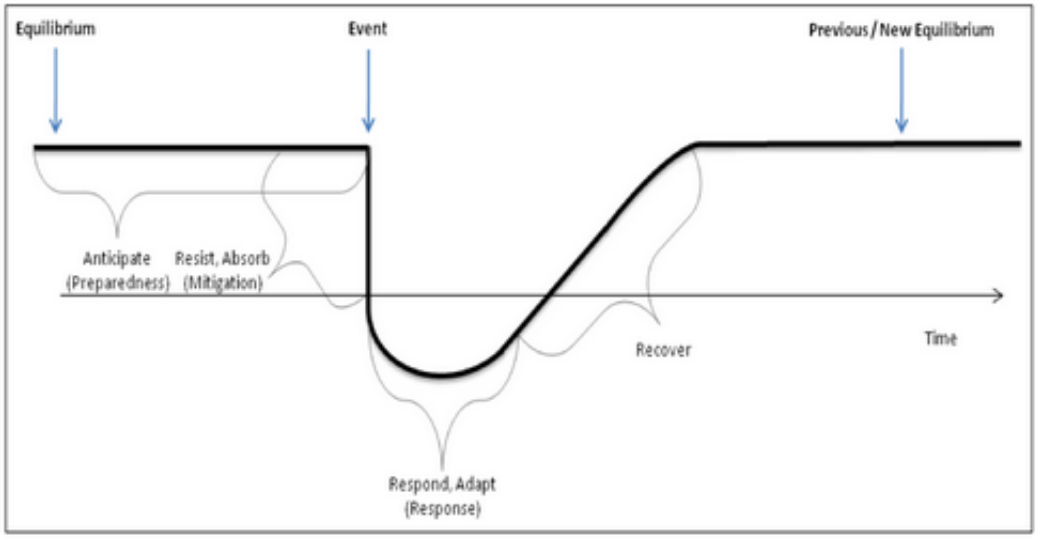
  b. Ability to resist or absorb shocks (fight back).

  c. Capacity to deal with disruption through creativity and innovation.

  d. Ability to easily restore equilibrium and stability.

  e. Readiness to undergo change and self-renewal.

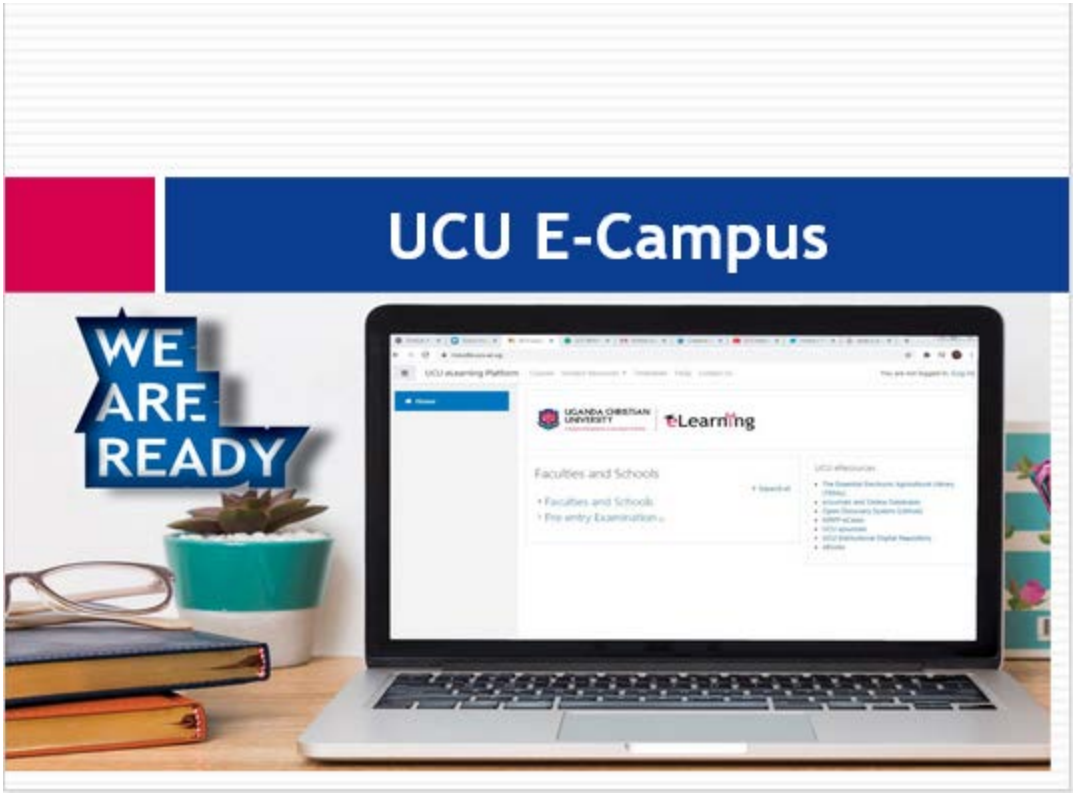
Resilience preparedness is key



Elements of resilience: Carlson, J.L. et al., 2012.

Scale up measures to enhance resilience at HEIs

PREPAREDNESS (Anticipate a crisis, e.g., COVID-19)	MITIGATION (Resist, Absorb)	RESPONSE (Respond, Adapt)	RECOVERY (Recover: Restore, emerge stronger)
All activities and actions taken by an organisation to define crises, hazards it may face	Prior activities or plans taken to mitigate the consequences or severity of the crisis	Plans, activities, systems, measures, etc in place to manage or adapt to the adverse effects of the crisis	Activities, programmes, actions to help the organisation return to normal conditions prior to the crisis or emerge even stronger and more efficient


UCU E-Campus
WE ARE READY
UGANDA CHRISTIAN UNIVERSITY
eLearning
Faculties and Schools

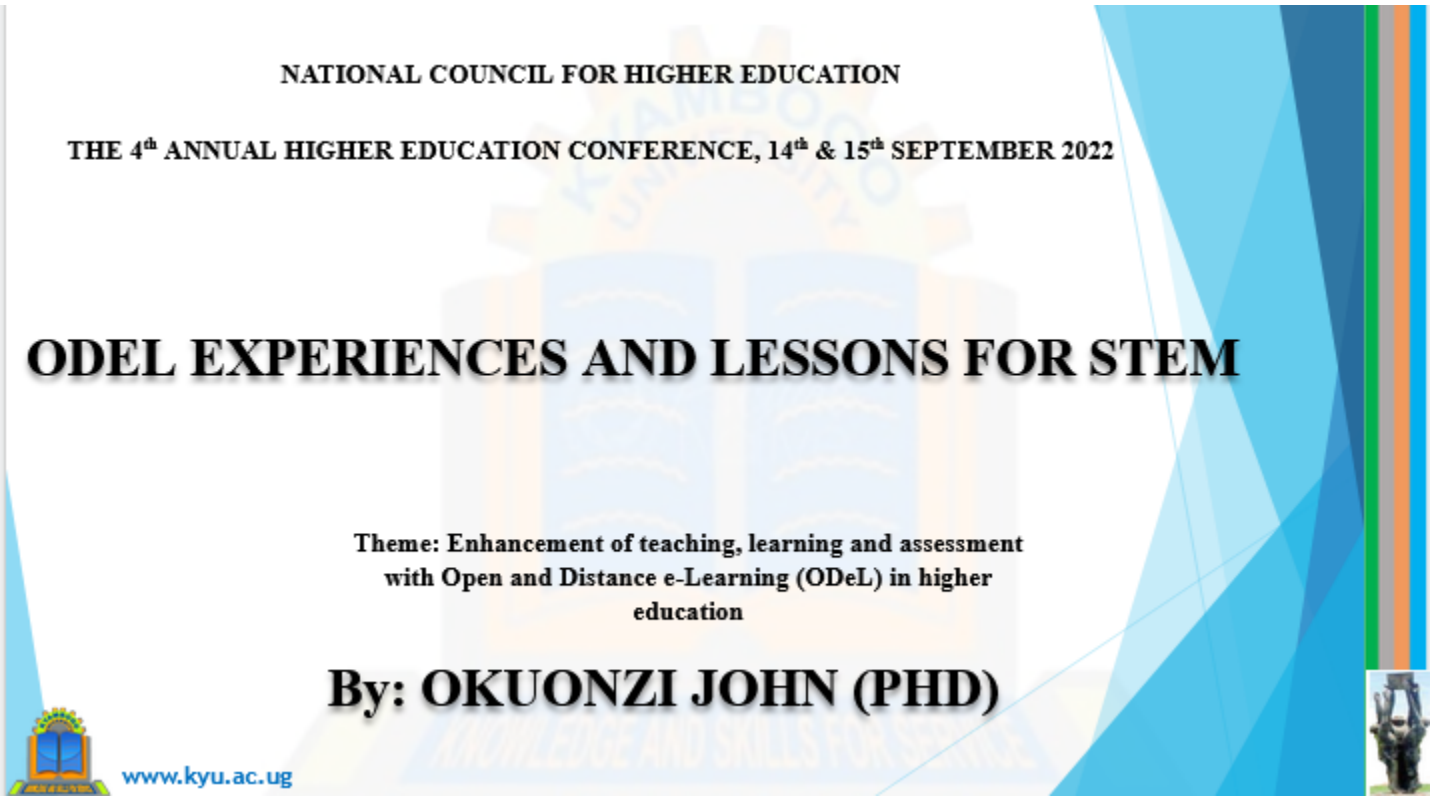

Thank you

Presentation: ODeL experiences and lessons for STEM

By

Dr. John Okuonzi,

Director ICT, Kyambogo University



Menu

- STEM and ODeL
- KyU ODeL History
- Can STEM be delivered using ODeL?
- How and Why ODeL Mode for STEM?
- ODeL Readiness Model for STEM
- Experience from Kyambogo University
- Lessons
- Questions

www.kyu.ac.ug

STEM & ODEL-Key Questions

- ***Are Teachers and Learners surviving or thriving using ODeL Mode for STEM?***
- ***Can students have the same quality of experience if they do not have the same materials, lab space, and time with which to experiment, practice, and repeat***
- ***How can we Maintain equity within science education when teaching STEM***
- ***Do we have the Technologies for Teaching Stem (Gadgets, Internet, wifi, stem materials like robots, animation and video-making, digital materials)***
- ***Are there enabling Policies and guidelines?***

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ODeL Experience and Opportunities

- 1997- ODeL under the African Virtual University
- 2006 -ODeL for Science Programmes under the Millennium science initiative 2006
- 2008-2011 ODeL for Biomedical Engineering Diploma Programme-collaboration with Fontys University of Applied Sciences
- 2014-2017 ODeL for all Programmes-Under the HEST programme
- 2020 During the COVID-19 pandemic, NCHE advocated for ODeL mode to keep the students, staff members, and other stakeholders' safe

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Can

be Delivered Effectively Using ODeL Mode?

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4 Approaches

1. Get as Visual as Possible-visual, auditory and kinaesthetic
2. Get on Camera-Physically get yourself, your Trainers or your subject matter experts on camera.
3. Screencast-use a piece of software to film or record your own computer screen live, with the sound of the Trainer's voice narrating over the top.
4. The 'DEDICT' Method of Teaching-
   - DEMONSTRATE the task at normal speed (on camera or screen cast).
   - EXPLAIN what you did step-by-step.
   - DEMONSTRATE again, but this time slowly
   - IMITATE Get the viewers to have a go.(Start with virtual reality, augmented reality, or a simulation.)
   - COACH. Give feedback, further advice, scenarios where this would apply, or different scenarios where there may be an alternative way of executing the skill.
   - TEST them. Give them a practical challenge, quiz, assessment or activity.

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How to use ODeL Mode for STEM

Innovations	Preparations	Platforms	Visuals	Progress & Assessment
improvise and adapt	STEM materials	Identify technology	Look & Lighting	Interact with students
manage the technology	Translation of materials on screen	Inputs and outputs	Background	Quizzes & Assignments
transfer of knowledge and skills	Changes to materials and expectations	Limitations	Camera positions	Tests and Exams
expectation of staff and students	Guidelines	Practice	Sound and microphones	Gradings and Feedback
Interest students with 4IR techs	Curriculum	Setup and configure materials	Content design and outlook	Relate STEM to real world expectations
Hybrid approach	Attendance	Technical support	Track activity times	Open book/Proctor tools
			real-life states	

Why STEM

- The sustainable growth of every economy is overwhelmingly reliant on the skills development of the workforce in various economic sectors.
- This development extensively depends on the demonstration of competence in key knowledge areas such as:

(Dawson, 2019;

ODeL Readiness Models for STEM T&L to Thrive

SN	Student Readiness	Staff Readiness	Institutional Readiness
1	Competency of technology usage	Acceptance	Finance
2	Self-directed learning	Access to technology	ICT infrastructure
3	Access to technology	Motivation & campinions	Human resources
4	Confidence in prerequisite skills and in themselves	Time management	Management and leadership
5	Motivation	Institution and policy	Local Content
6	Time management	Content, pedagogical competency	Culture/change management
7	Campions	Competency in technology	Competency in technology usage

ICT Infrastructure for ODeL-Thrive

SN	ICT Systems/Equipment	Number in 2012	Number in 2022	Percentage increase
1	Computers (Laptops and Desktops)	150	1637	135%
2	Servers	6	21	110%
3	Routers	1	6	60%%
4	Switches	120	600	50%%
5	Wireless Access Points	6	179	300%
6	Smart Boards	1	21	210%
7	Fiber backbone	0km	27Km	270%
8	Cables connections	10km	220Km	220%
9	Internet Bandwidth	10Mbps	700Mbps	70%
10	Internet concurrent access and users	120 Users	22,000	183%
11	Students with Mobile devices and smart phones	Less than 500	24,000	148%

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ICT Infrastructure for ODeL.....

SN	ICT Systems/Equipment	Number in 2012	Number in 2022	Percentage increase
12	Fiber links to buildings	4	360	90%
13	eLearning Systems	1	5	40%
15	eLearning system Capacity	1200	20,000	160%
16	ODeL based labs	3 with a total of 120 computers	7 with total of 610 working computers	50%
17	Staff with laptops	Less than 50	More than 500	100%
18	Staff and students with university email for ODeL	Less than 400	More than 35,000	
19	Assessment of courses	0	30 proposals & thesis defended online	200%

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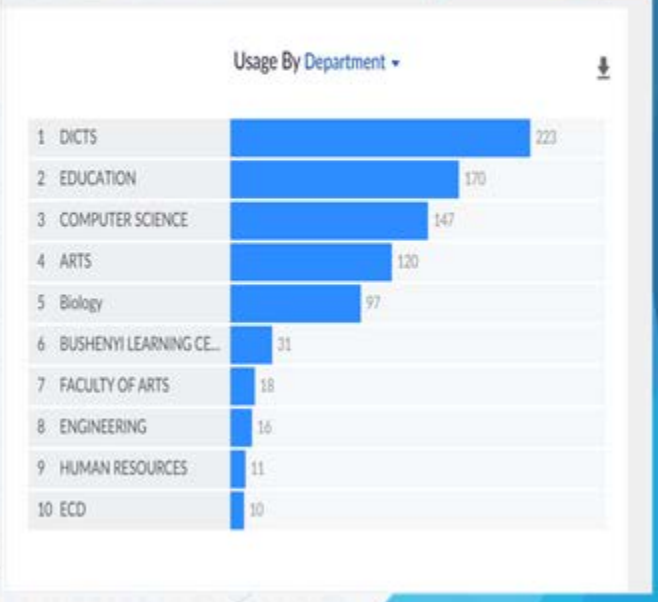
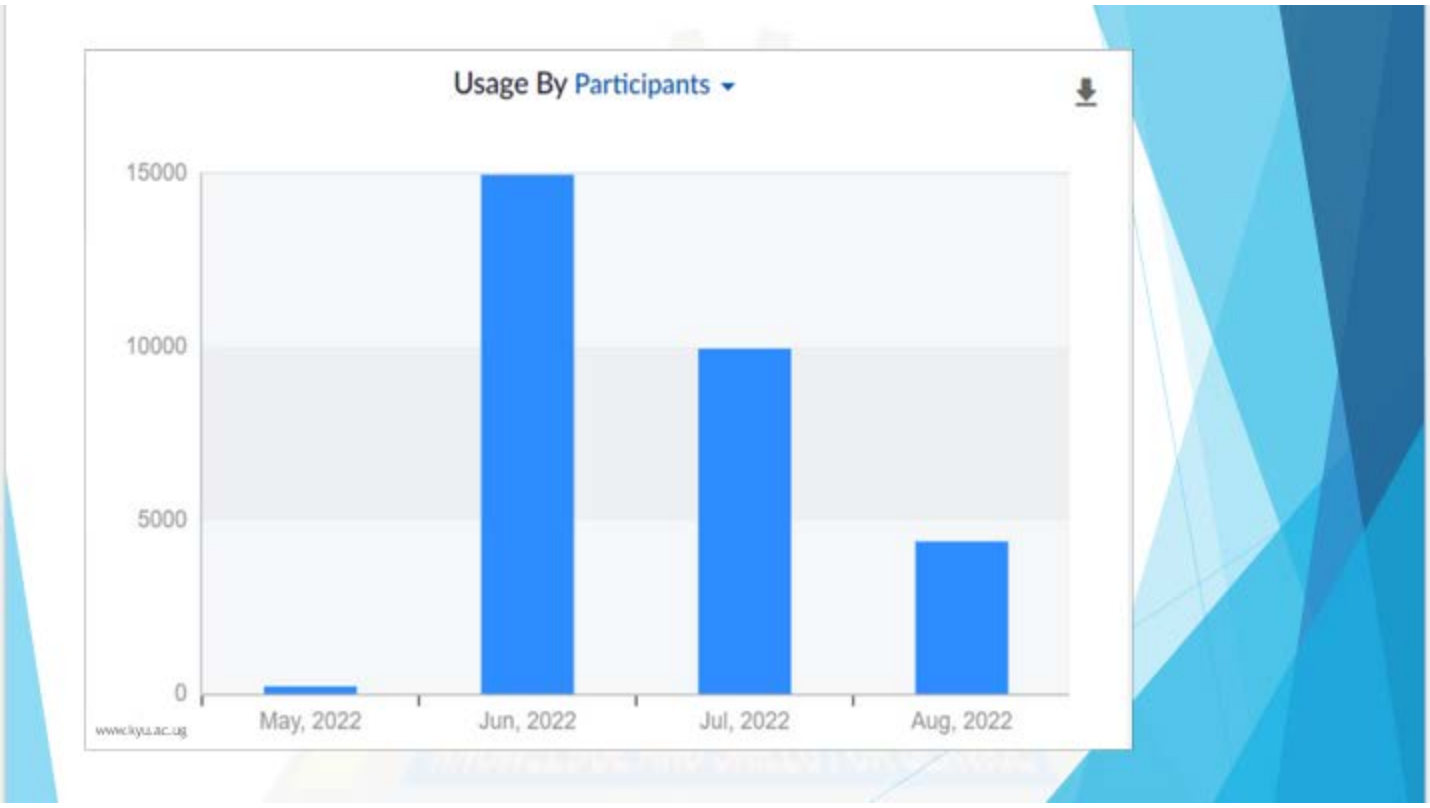
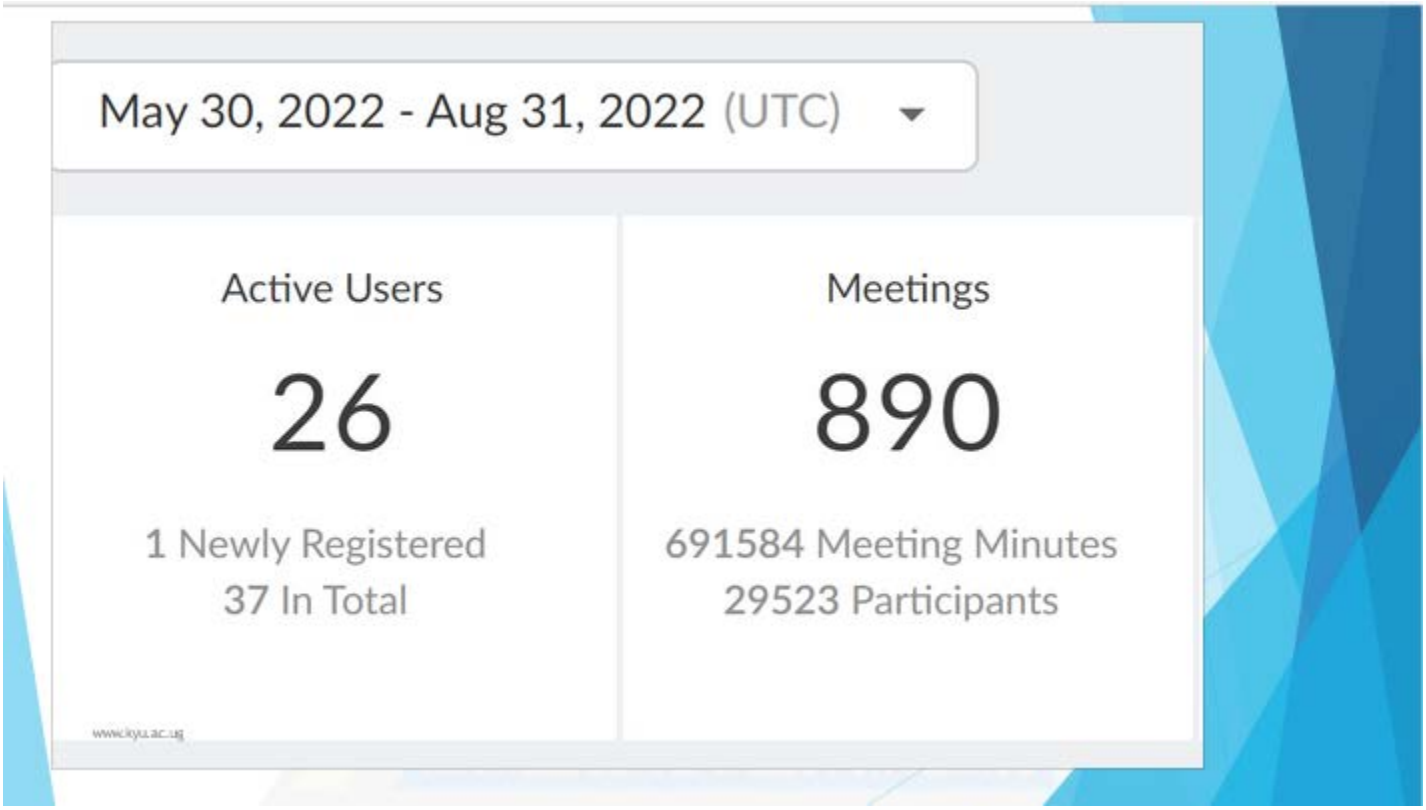
ODEL TRAINING

1	Workshop/Training	No of staff trained	Platform Used
2	UNESCO -ODeL	30	KELMS/ Moodle
3	HEST E-learning	120	KELMS/ Moodle
4	DICTS&NORED E-Learning training	15	KELMS/ Moodle
5	Commonwealth, Faculty of Education & DICTS E-Learning Training	20	KELMS/ Moodle
6	Ireland, Educ Fac E-learning Training	16	KELMS/ Moodle
7	NORHAD Programme. MVT	16	KELMS/Moodle
8	Kyambogo University weekly online learning training	360	Google Classroom/Google meet
	Total	**577**	

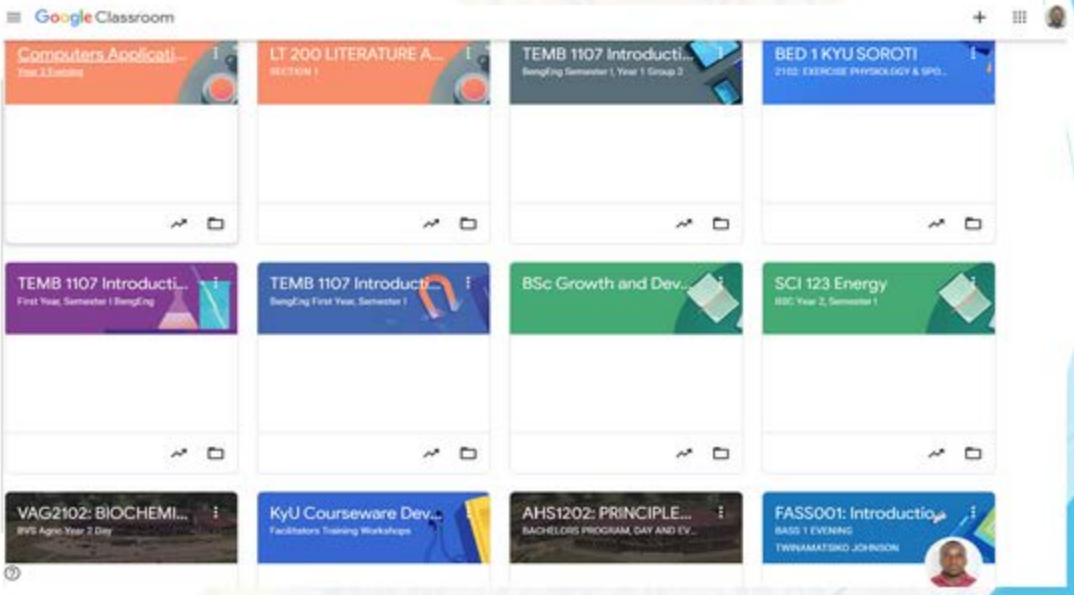
Zoom Classes in KyU



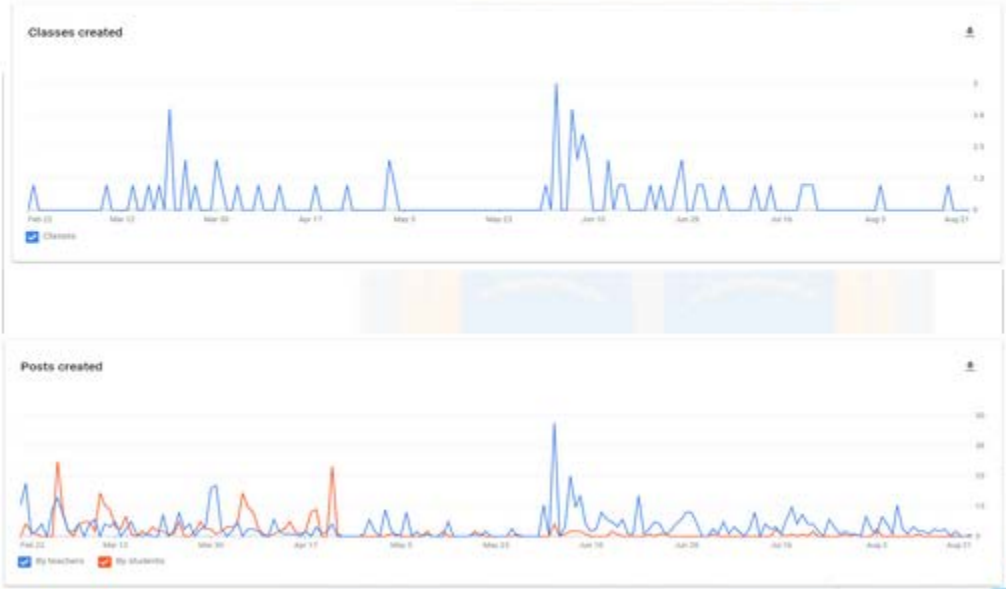

Usage By Participants
15000
10000
5000
0
May, 2022
Jun, 2022
Jul, 2022
Aug, 2022

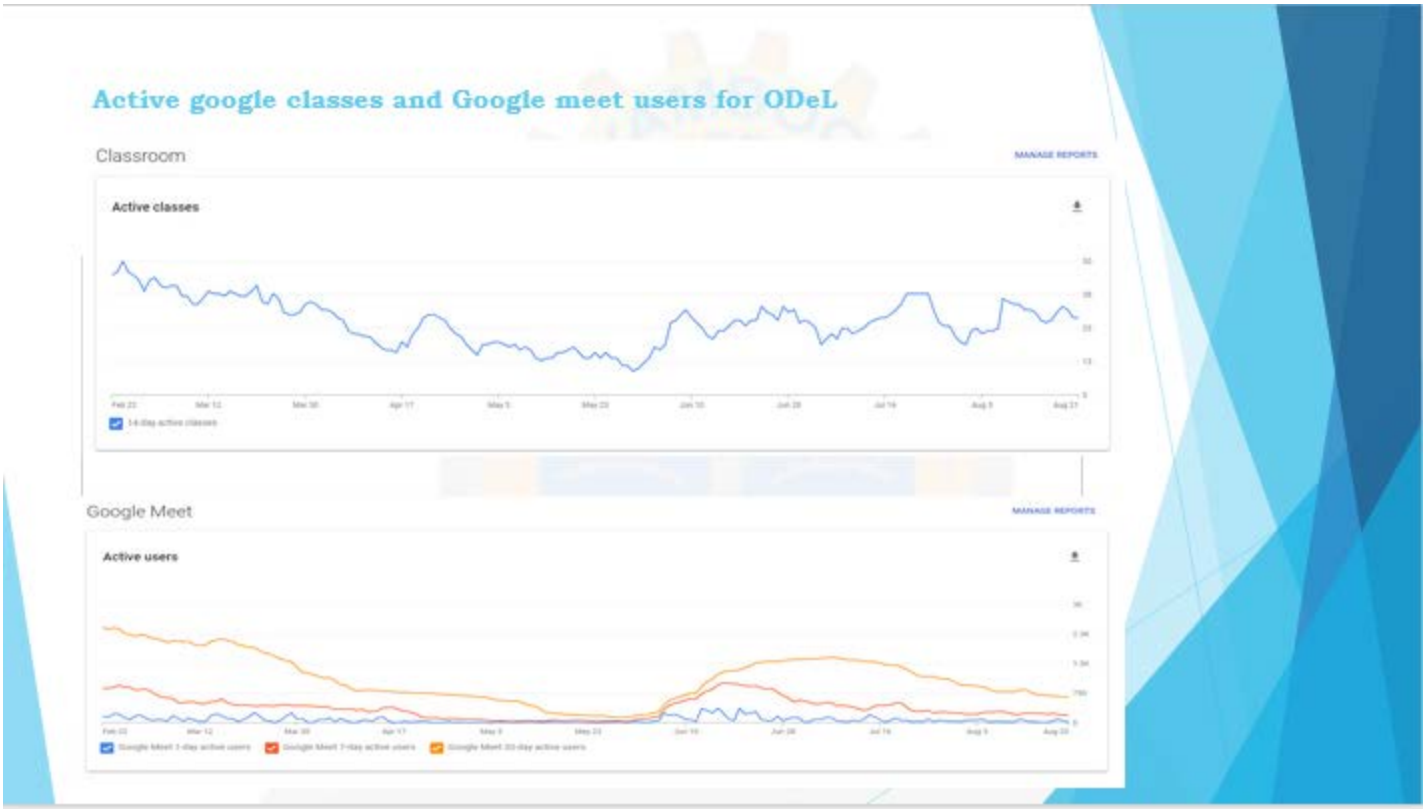

May 30, 2022 - Aug 31, 2022 (UTC)
Active Users
26
1 Newly Registered
37 In Total
Meetings
890
691584 Meeting Minutes
29523 Participants

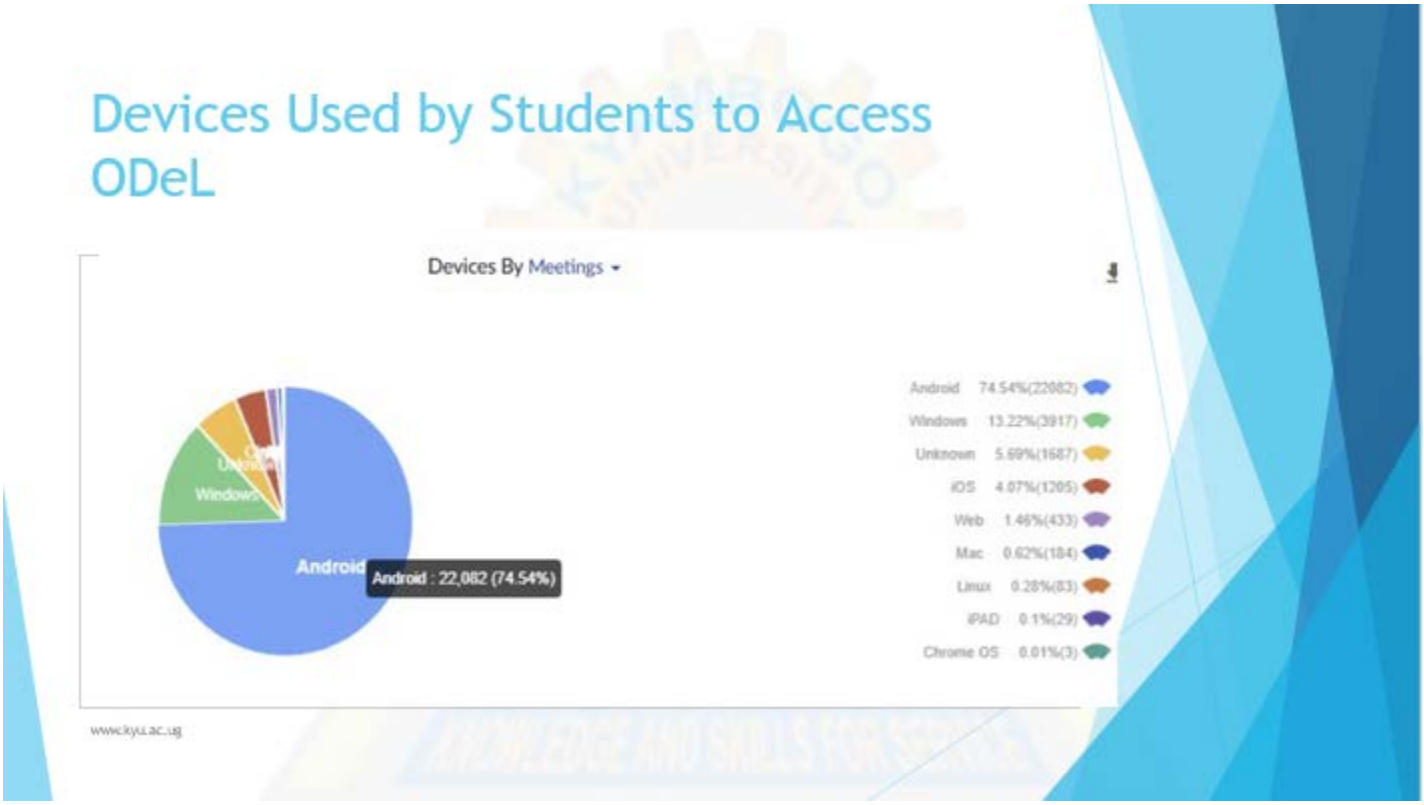
Examples of Google classrooms created for ODeL training and actual teaching and learning.



Classes and Posts Created




Active google classes and Google meet users for ODeL
Classroom
MANAGE REPORTS
Active classes
Google Meet
MANAGE REPORTS
Active users


Devices Used by Students to Access ODeL
Devices By Meetings
Android
Windows
Android : 22,082 (74.54%)
Android 74.54%(22082)
Windows 13.22%(3917)
Unknown 5.69%(1687)
iOS 4.07%(1205)
Web 1.46%(433)
Mac 0.62%(184)
Linux 0.28%(83)
iPAD 0.1%(29)
Chrome OS 0.01%(3)
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Lessons Learnt

- Effectiveness of STEM programmes
- Performance
- ODeL programme design
- Expected Learning Outcomes
- Training and attitude change
- Student creativity
- Research and Innovations
- ODeL policies

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Conclusion

- Success in STEM using ODeL approach institutions can be achieved by providing and creating a virtual learning environment in a way that helps learners to enjoy and engage in workshops that integrate these sciences, and enables them to develop their knowledge and skills in a way that allows them to understand and understand science in an easy and easy way and in an enjoyable learning style, so that the impact of these skills extends to include all the learner's educational activities in life and commensurate with the natural and geographical variables.

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Thank you
QUESTIONS?
WHEN?
WHERE?
WHAT?
WHO?
HOW?
Where?
What?
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Presentation: Observations for Crisis health education and training after Covid-19 by Ms. Irene Atuhairwe

Learning through crises

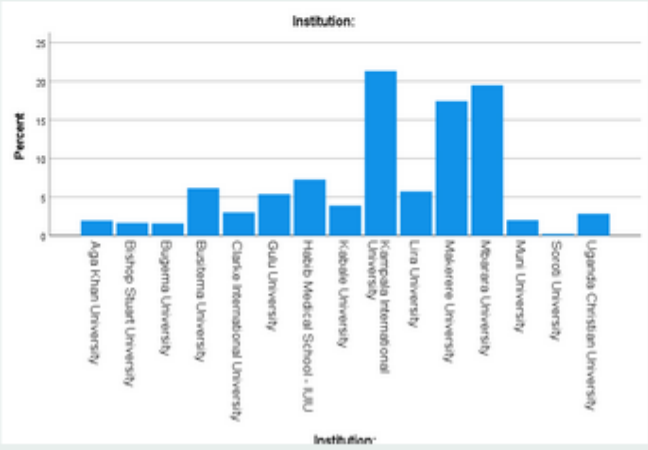
Covid highlighted existing challenges that have existed in HPE education

- Over Crowding
- Clinical teaching
- ODeL- Does this affect quality of training
- Safety – Who is responsible
- Access to preventive strategies; Vaccination, PPE, treatment
- Generalization of education – HPE have special considerations. Students who are already qualified professionals e.g. post graduate, mature entry students etc.

Seed Global Health Contribution

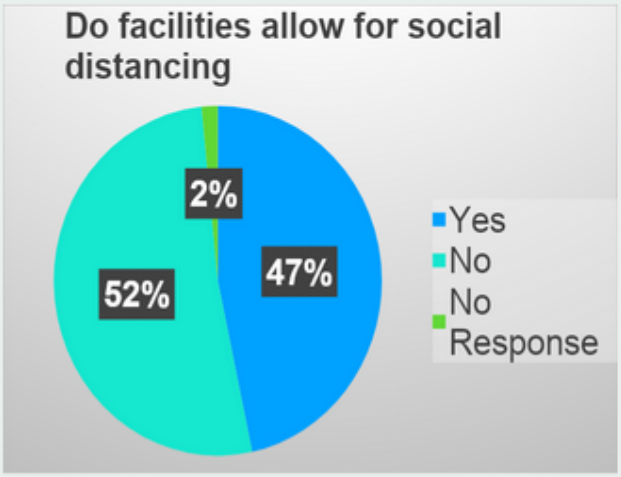
- Collaboration with NCHE – Consultations with students, training institutions
- Co development of SOPs with institutions
- Training Partner Universities in ODeL - onlinisation
- Training of Health Professional Training Institutions in IPC – Online learning platform
- Establishment of Status Squo – ASHPECC Study
- Assessment Visits to assess adherence to SOPS

Assesment of Health Proffessional Education during Covid - findings



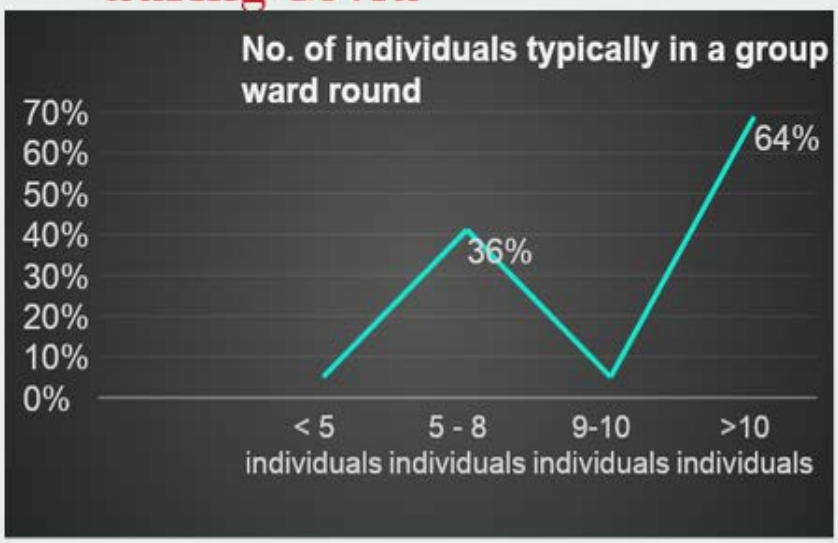
- Collaborated with NCHE and Makerere University to conduct survey 2020/2021
- Cross sectional survey – 15 HP Teaching institutions and 15 affiliated teaching hospital
- 95% response rate for students (1785) from 112 districts
- 98% Ugandan and 59% Male, 58% Medicine
- 57% in their clinical year of study

Perspectives on Clinical teaching during Covid



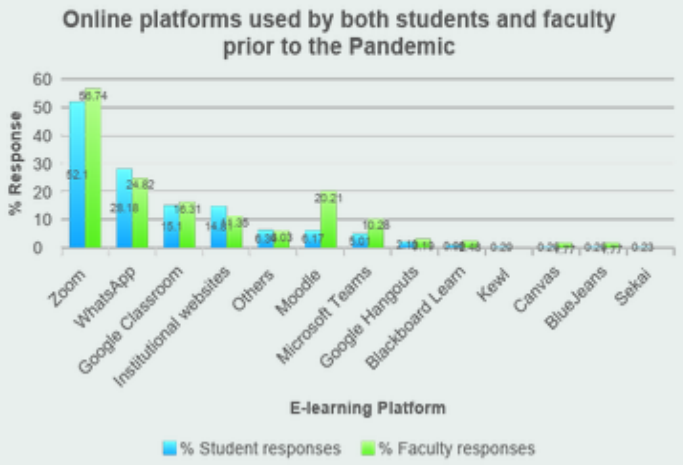
- 52% of students didn't think current teaching facilities allowed for social distancing
- 59.28% of faculty thought that available facilities do not allow social distancing

Perspectives on Clinical teaching during Covid



- 64% of individuals mentioned that there are usually more than 10 people per ward round/clinical teaching

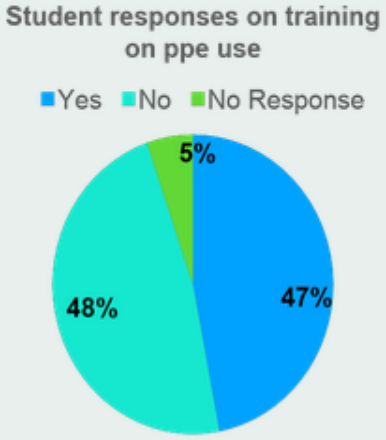
Perspectives on Online/e Learning



- Overall faculty were more experienced with zoom, Moodle, teams google classroom
- Students were more experienced with WhatsApp and institutional websites
- 49% students and 78% of faculty had received training in e-learning
- 46% of students had access to smartphones and only 29% had laptops. 81% faculty had smartphones and 89% had Laptops.
- 72% Of faculty thought that internet costs should be met for students and faculty by the institution
- 69% of students identified limited teacher student interactions as a barrier for e-learning.
- IT challenges (Connectivity, costs, hard ware) was the second common barrier at 22%
- From faculty perspective IT infrastructure (36.5%) and performance management (22.5%) were the major barriers for e-learning

\

Perspectives on Personal Protective Equipment (PPE)



- Almost half of the students (48%) never received training on use of PPE such as donning and doffing
- 52.57% of students and 50.58% of faculty, reported that institutions had not communicated about PPE availability
- Most students (56.91%) felt that the Government/Institutions should have funded their PPE
- 30.86% of the faculty recommended students pay for their PPE, however 56% anticipated institutions to pay for faculty PPE
- In the unfortunate event that a student contracts Covid, almost half of the students (48%) and another half of faculty (48%) recommended that they are treated from a separate facility

Lessons Learned from Covid 19

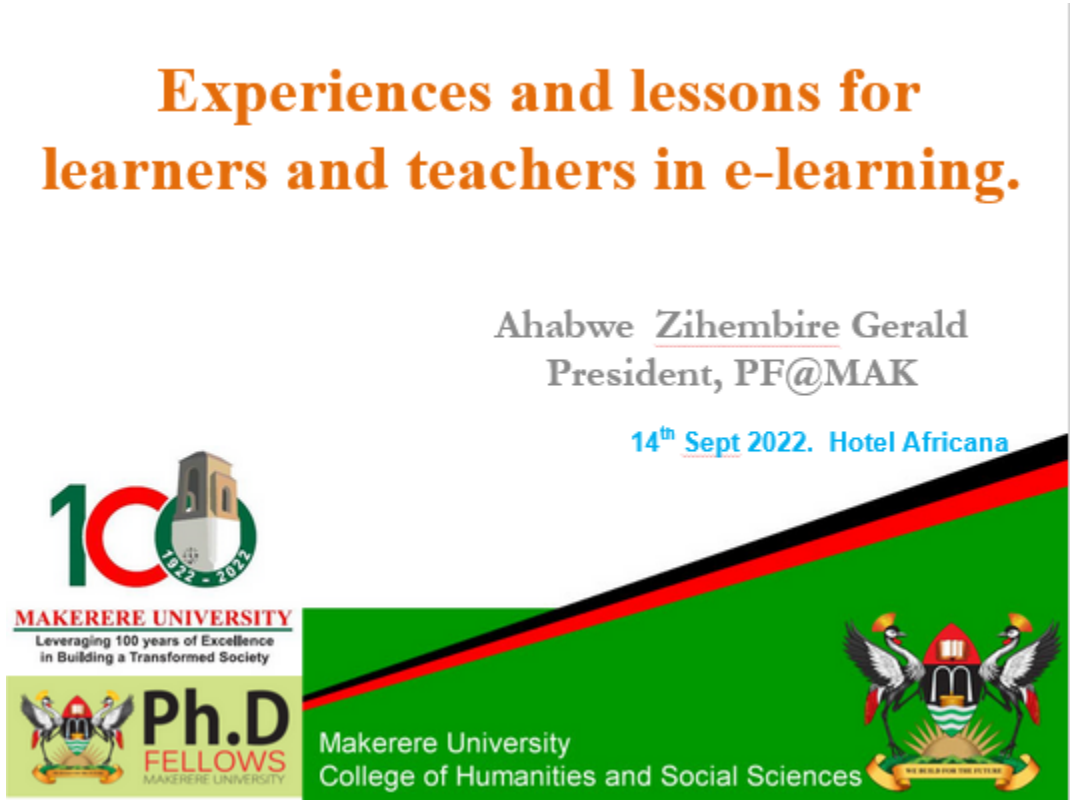
- Preparation is key
- Capacity of institutions to provide IT infrastructure, prevention strategies
- Training of Students and faculty in Infection Prevention and PPE use
- Overcrowding in clinical settings highlighted by the pandemic
- Internet Challenges and costs affect quality of learning
- Preference for teacher student interaction
- Academic institutions are seen as the responsible party during crisis such as a pandemic

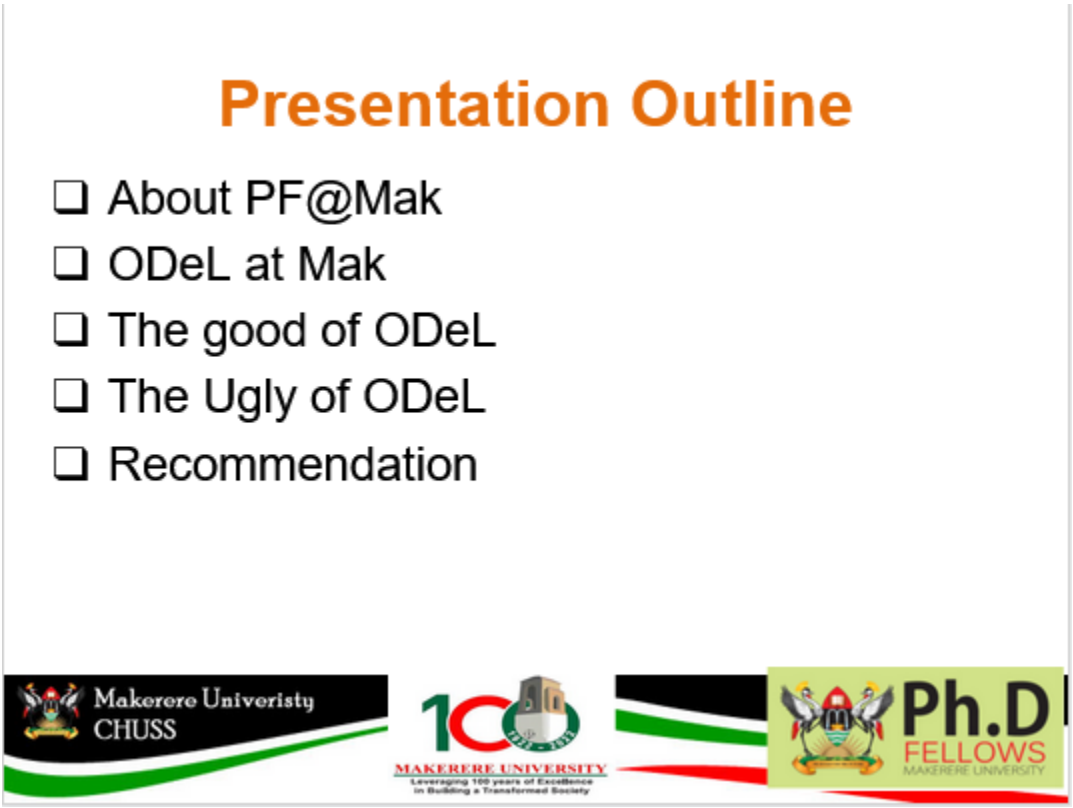
Recommendations

- Intersectoral collaboration for ample preparation for pandemics and epidemics in HPIS (MOH, MOES, NCHE, other sectors and partners with clear roles.
- Address challenges of overcrowding in HPIs – Satellite training sites, coordinated schedules, Teacher/student ratios among others
- Capacity building and strengthening for IT infrastructure and Online learning for institutions, students and learners, blended learning. Work with ministries and comm'n companies to subsidise costs for internet, hardware.
- Continuous sensitisation and education on infectious diseases, management of epidemics, IPC in HPIs
- Develop guidelines for training HPs and continuous assess learning and teaching conditions in HPIS.
- Institutions develop risk mitigation plans for future epidemics (financial, structural, and public health)
- Policy dialogue and advocacy – ensure continuity of HPE amidst pandemics/epidemics


Seed
GLOBAL HEALTH
Thank You
Irene Atuhairwe
Country Director
iatuhairwe@seedglobalhealth.org

Presentation: ODeL experiences and lessons for researchers





About PF@Mak

- PF@Mak is a forum of PhD fellows of Makerere University whose main purpose is offering mutual academic support for timely high quality research through networking, peer reviewing, sharing funding opportunities and timely study completion.
- Makerere has about 500 PhD students. On average 100 graduate per annum. Target to raise it to 300.
- Mak has a strategic Plan 2020-2030: aimed at

ODeL- Open & Distance e-Learning

- Formal education program where a student learns through online delivery of content and face to face instruction or other modalities with some component of student control over place, time and path and has to be supervised in a brick and mortar location away from home (Staker & Horn, 2012).
- Physical distance between Prof and learner.
- Learning that takes place by use of internet.

For most of us, our previous learning experience have not prepared us for ODeL.

The good of ODeL

- ❑Access to latest learning resources
- ❑Enhanced research productivity of learners
- ❑Competent librarians
- ❑Less costs in participation
- ❑ODeL enables teaching and learning while fulfiling multiple roles.
- ❑Appropriate for learners/teachers affected by the barriers of distance, cost and time.

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ODeL at Mak

- ❑ The Academic Management Information System (ACMIS) is in place
- ❑ Several LABs in place
- ❑ Several partners e,g RENU
- ❑ WiFI hotspots around Camp
- ❑ Some Loan Scheme for lap
- ❑ Champions Trained
- ❑ Some ICT Training in Secc

Makerere Univeristy CHUSS | MAKERERE UNIVERSITY Leveraging 100 years of Excellence in Building a Transformed Society | Ph.D FELLOWS MAKERERE UNIVERSITY

Challenges of ODeL

- ❑ Limited access to ICT Equipment e.g Laptops, Cameras.
- ❑ Limited knowledge in ICT use
- ❑ Political decisions e.g closure of face book
- ❑ Very low access to ICT infrastructure. E.g Labs
- ❑ Other Complementary services unstable e.g Electricity, Softwares,…Deficiency of conducive learning environments

Makerere University CHUSS | MAKERERE UNIVERSITY | Ph.D FELLOWS MAKERERE UNIVERSITY

ODeL- Recommendations

- ❑ Aligning the University, Learners & Faculty to ODeL.
  - ❑ Incentives e.g tax holidays on infrastructure
  - ❑ Loans to learners /faculty– laptops, phones,…
  - ❑ Investment in complementary services e.g bandwidth quality, internet cost, electricity
  - ❑ Capacity development to faculty/learners
  - ❑ Research Funding. RIF is a good starting point
  - ❑ More subscriptions by Libraries
  - ❑ Collaborations with private sector

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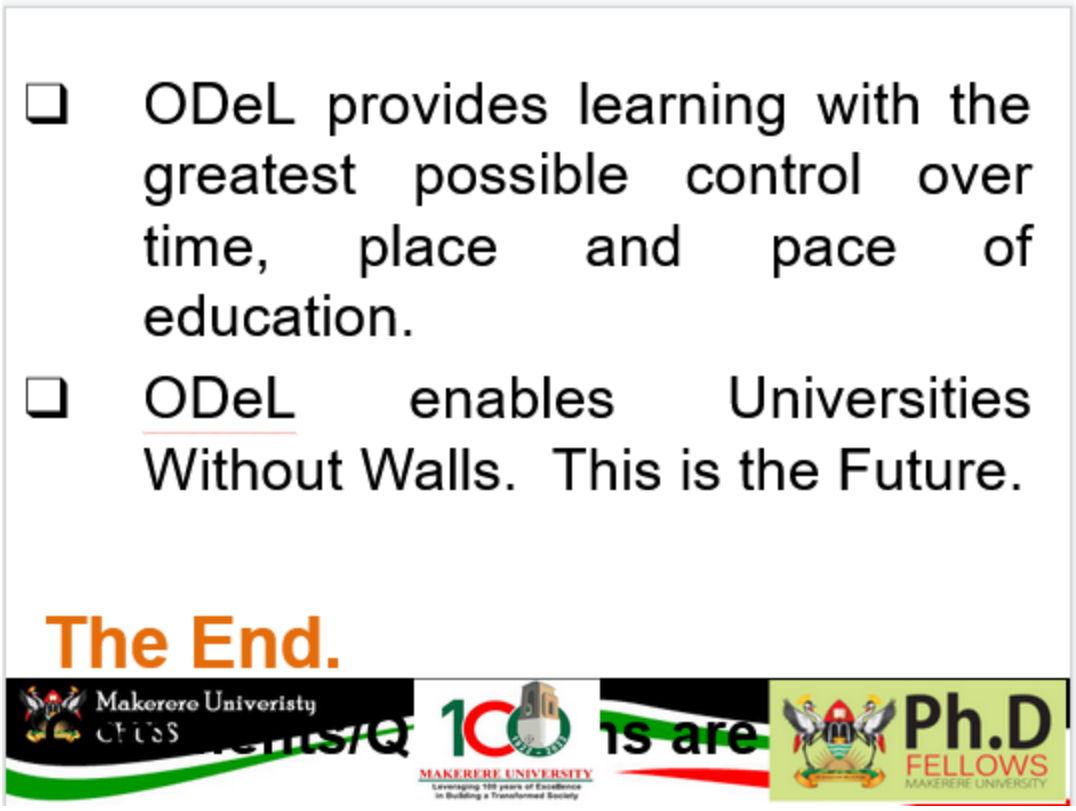


Presentation: ODeL experiences and lessons for lecturers/TVET

ODEL EXPERIENCES AND LESSONS FOR LECTURERS

A PRESENTATION MADE AT THE NCHE 4th ANNUAL HIGHER EDUCATION CONFERENCE (14th-15th Sep. 2022)

BY

Dr. Henry. Kasumba (PhD)
Department of Mathematics,
Makerere University
henry.kasumba@mak.ac.ug

Outline

- Introduction
- Experiences
- Lessons
- Conclusions
- References

Introduction

- In March 2020, Uganda was locked down due to COVID-19
- Higher education (HE) institutions in Uganda, along with other educational establishments, suspended all face-to-face teaching and social activities on campus.
- Universities were forced to deliver teaching and learning support remotely, through digital channels.
- Lecture materials had to be made available online as quickly as possible
- Academic teams had to quickly determine how teaching and assessment could be adapted to an online environment.

Negative Experiences

- Forced learning to adapt and change practices to maintain teaching and learning schedules.
- A lecturer as a learning practitioner
- The workload was higher than in face-to-face leading to increased stress and anxiety
- Familiarity and, mastery of institutionally supported digital-learning technologies
- Providing real-time feedback to students

Negative Experiences...

- Online delivery of laboratory sessions was difficult
- Implementing alternative online assessment tools
- Technical issues-> Asynchronous learning

- Lack of student engagement in learning and interaction
- Lack of understanding of engagement with asynchronous resources.

Negative Experiences…

- Poor ICT and Infrastructural facilities
- Low network coverage (internet hardly in rural Areas) and expensive for low income learners
- Few or no zoom licenses for synchronous learning and lack of host right to record lectures for future reference
- Limited band width on the online platforms
- Attendance of students was low and inconsistent
- Negative bias by students towards on-line learning

Positive Experiences

- Lecturers have learned to use technological tools more (75 % of Academic Staff-R. Ouma).

- There have been an increased collaboration between Lecturers.
- Lecturers have changed their practices to maintain teaching and learning schedules.

Positive Experiences

- New ways of learning and teaching have been adopted
- Increased enrollment of students-> promotion of staff

Positive Experiences

- Minimally controlled overcrowding in Lecture rooms (blended).
- Lecturers have learned better online assessment tools
- Reduction in e.g., transport costs incurred by individual academic staff members
- Lectures Spent more time on themselves and their families.

Positive Experiences

- Safety in curbing the spread of Corona virus
- Innovativeness-information can now easily be accessed and share quickly.
- Improved time management

Lessons

- Need to use appropriate technology to teach learners for effective delivery, e.g., state of the writing pads for practical subjects
- Improve curriculum to meet the demands of students attending distance education programmes
- Timely monitoring of the programmes to avoid programme discrepancies across universities.

Lessons

- Government should help in purchasing ICT equipment for Lecturers, facilitate internet, etc…
- Universities need to set up proper training of staff
- Need for collaboration between staff of different universities to avoid duplication and wastage in development of resources

Lessons

- Need for adequate orientation of staff
- Need for a barrier free environment for staff to actively engage in learning activities
- Need to maintain practices that promote active participation of staff in learning processes .
- Need for change of attitude by staff towards use of technologies in Learning processes.
- Need for a system that encourages creativity and innovativeness among academic staff

Conclusion

- Need to restructure pedagogy to accommodate technology
- Should emphasize blended mode of learning
- Open and Distance e-learning is here to stay
- Let us support it

References

- R. Ouma: Beyond ``Carrots" and "sticks" of online learning during the Covid-19 Pandemic: A case of Uganda Marty's University
- M. Matovu.: Distance Education in Uganda: Issues, Opportunities and Challenges.
- T. Almpanis, P. Richard.: Lecturing from home: Exploring academics experiences of remote teaching during a pandemic.

Thank you

Presentation: ODeL experiences and lessons for learners/Disability

THE 4th ANNUAL HIGHER EDUCATION CONFERENCE

Theme: Enhancement of teaching, learning and assessment with Open and Distance e-Learning (ODeL) in higher education

Mike Katongole
Council Member NCHE.

Qn: What are the ODEL Experiences for Students?

Ans:

Opportunties for ODEL

-access to world class knowledge services (liberalisation of knowledge)

-24/7 all round self paced learning and increased access to accademic human and other resources

-eliminating barriers of distance in quest for knowledge aquistion

-simulation of practicums in a virtual world

- Promotes the new higher education philosophy of massive, open, universal and continous education.

Reflections on Emergency ODEL in COVID

-succesfully supported continuity of teaching and learning in most institutions especially Universities

-disrupted trditional teaching and learning culture for good (new teaching and learning behaviours have emerged)

- For the first time, we conducted mass e-assessments

Shortfalls of ODEL in normal and crisis times in Uganda and Sub-saharan Africa

-A big gap in computer, smartphone or tablets accesibilty among learners

-inadquate digital skills for both learners and instructors

-Insufficient capacity to develop digital course content of valuable standard

-Less inclusion strategies for students with disabilties – case specific interventions > generally enhanced audio-visual aspects increase accesibilty

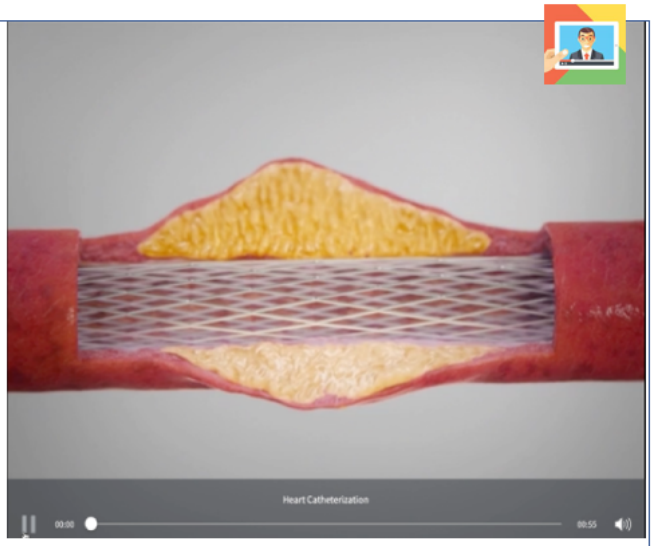
CASE STUDY FOR DISCUSSION;
Asynchronous VS synchronous padagogy?

Sample E-lectures

- **A Coronary angiogram;** is a procedure curried out to examine the blood vessles of the heart, a catheter is inserted into either the radial or femoral artery, and advanced to the aorta and engages the coronary arteries. Contrast die is then injected into the coronary vessels and visualised via x-ray imaging. If there is a brokage within the veessels, this will be evident by a narrowing on the x-ray image, the brokge is genrally caused by pleque build up in the vessel wall. To treat this, a baloon catheter with a stent is advanced into the artery. The baloon is inflated to expand the stent and push the pleque against the wall, thus increasing the widith of the artery and restoring normal blood flow, this is reffered to as percutaneous coronary interuption.

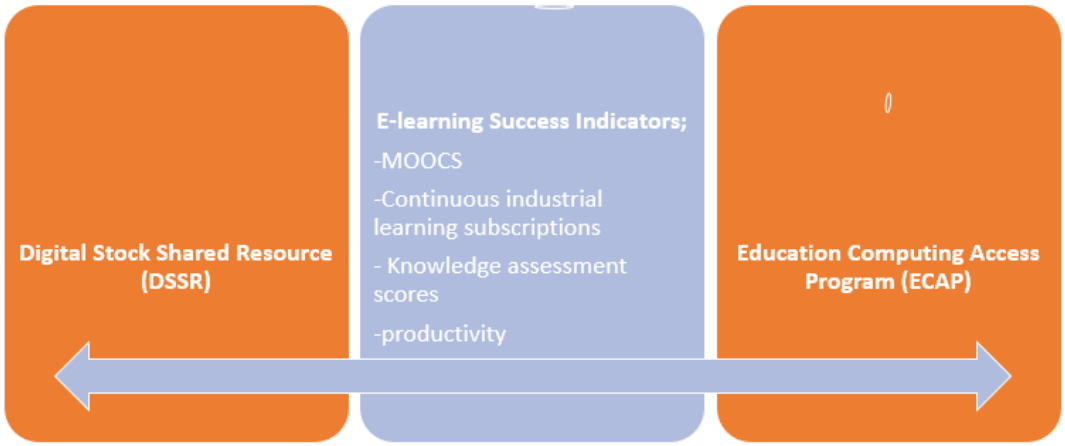
ovecast

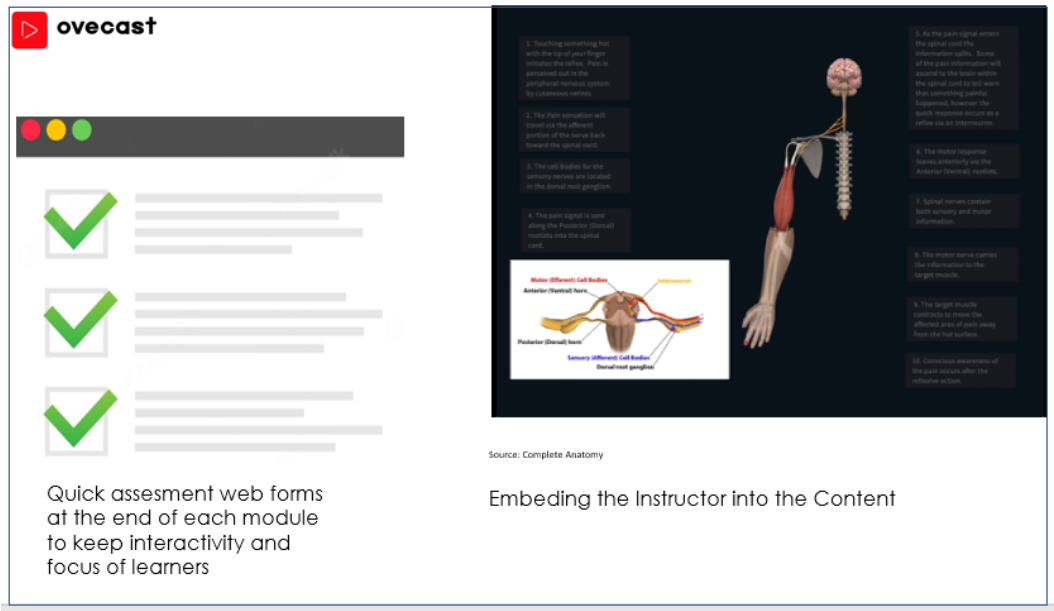
A Coronary angiogram; is a procedure curried out to examine the blood vessles of the heart, a catheter is inserted into either the radial or femoral artery, and advanced to the aorta and engages the coronary arteries. Contrast die is then injected into the coronary vessels and visualised via x-ray imaging. If there is a brokage within the veessels, this will be evident by narrowing on the x-ray image, the brokge is genrally caused by pleque build up in the vessel wall. To treat this, a baloon catheter with a stent is advanced into the artery. The baloon is inflated to expand the stent and push the pleque against the wall, thus increasing the widith of the artery and restoring normal blood flow, this is reffered to as percutaneous coronary interuption.



Source: Complete Anatomy

DSSR and ECAP- Key back bone strategic programs to give ODEL a solid foundation





Thank You for the audience

SESSION 3: ICT Skills Development, Regulatory Policy framework and strategies

Topic of discussion

Does the current Higher Education policy and regulatory framework meet the requirements for Higher Education Digital Transformation?

Panelists

i. Prof. Mike Kuria, Deputy Executive Secretary, IUCEA
ii. Prof. George L. Openjuru, Vice Chancellor, Gulu University
iii. Dr. Jane Egau, Director HTVET, Ministry of Education & Sports
iv. DR. Pius Achanga, Director QAA, NCHE
v. Mr. Derrick Etuusa, Solutions Director, Huawei Technologies Uganda Co. Ltd

Suggestions and recommendations

The following suggestions and recommendations arose out of the panel discussion

i. Need to develop a policy on retooling at National, regional and International level
ii. Need to build capacity to create our own technology because it would allow us to build what is significant to our community.
iii. Institutions need to be guided on technologies that support ODeL
iv. NCHE should monitor to ensure that guidelines are implemented i.e. do spot checks
v. Regulators need to work together to develop the policies but put into consideration institutional disparities
vi. Institutions should allocate funds for ODeL, when budgeting priorities of ICT

SESSION 4: Higher Education Online Delivery, Learning and Assessment

Presentation: Delivery assessment mode for e-learning by institutions managers.

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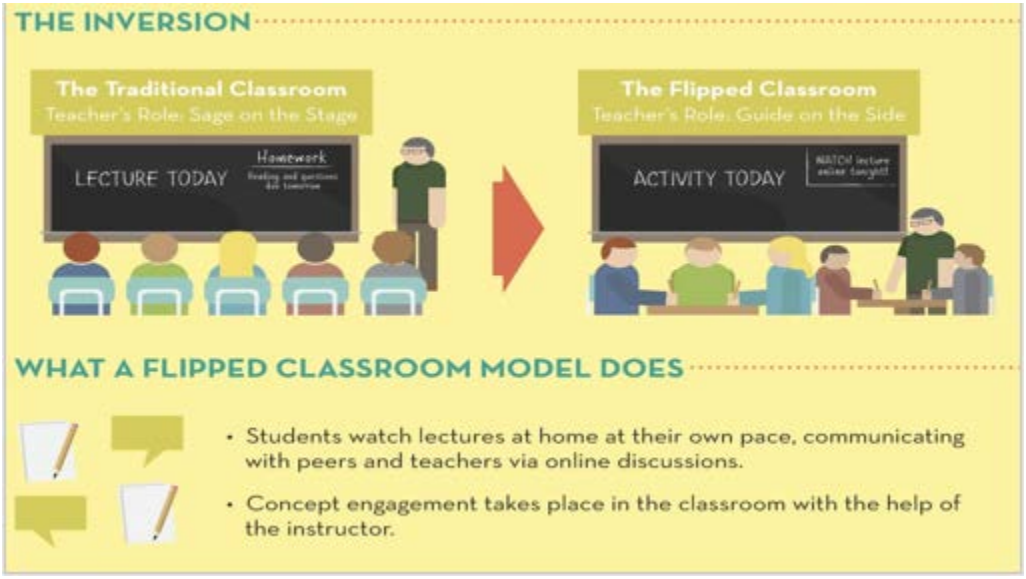
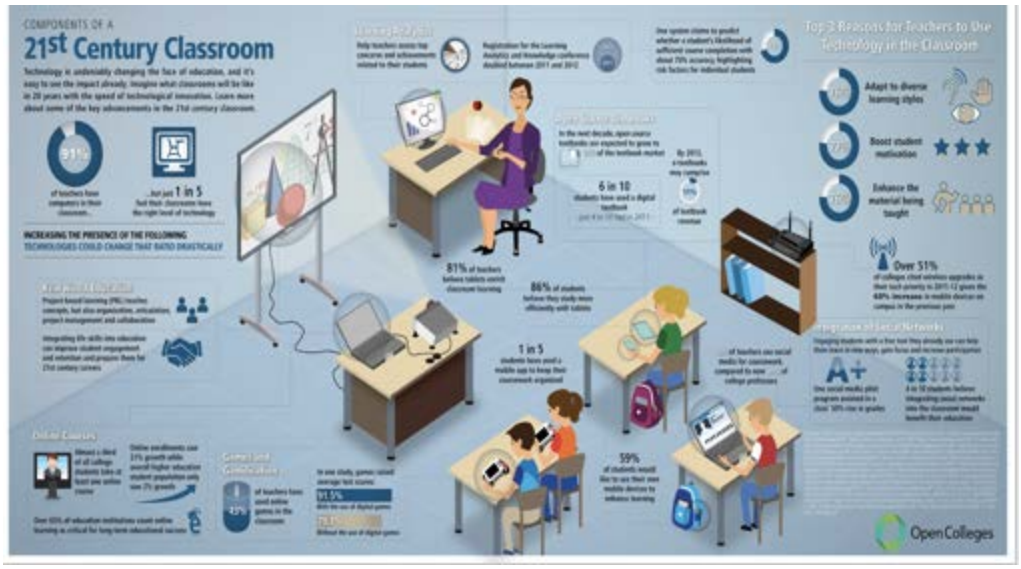
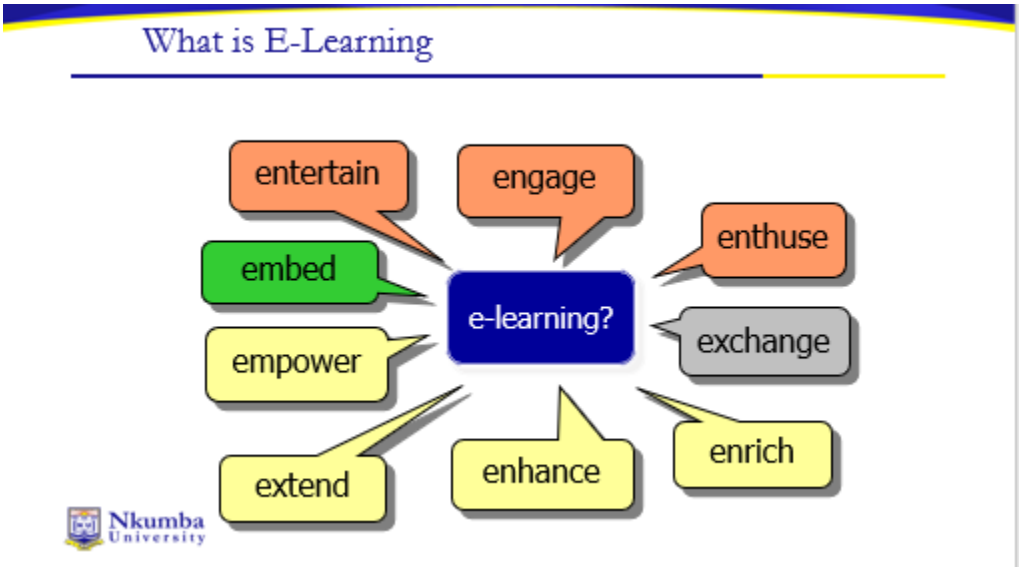
Delivery of Assessment during E-Learning

4th ANNUAL HIGHER EDUCATION CONFERENCE

Prof. Jude T. Lubega
Vice Chancellor




COMPONENTS OF A
21st Century Classroom
Top 3 Reasons for Teachers to Use Technology in the Classroom
Adapt to diverse learning styles
Boost student motivation
Enhance the material being taught
6 in 10
1 in 5
81%
86%
59%
Over 51%
Open Colleges


What is E-Learning
entertain
engage
embed
enthuse
e-learning?
empower
exchange
extend
enhance
enrich
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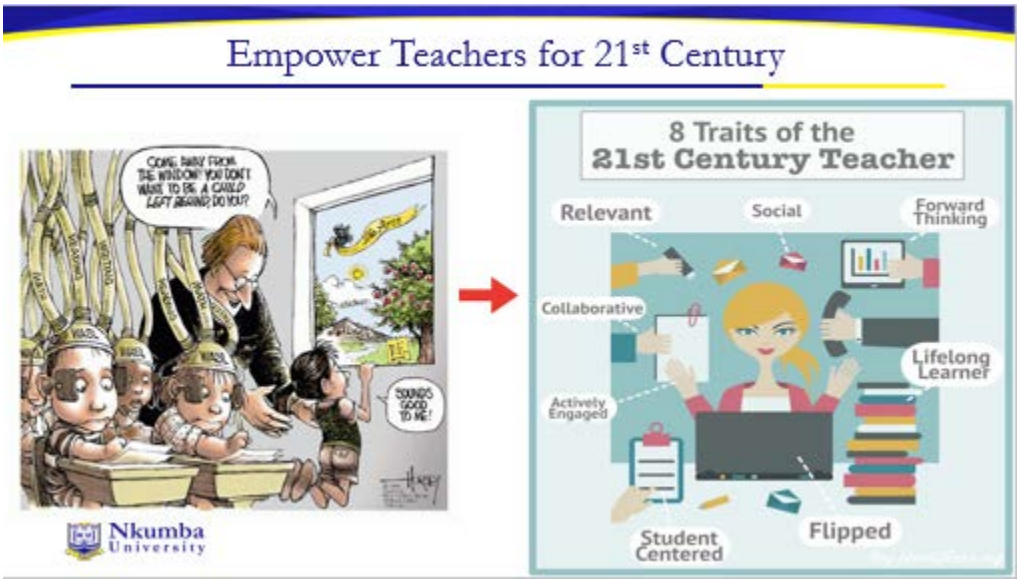
Empower Teachers for 21st Century
COME BACK FROM THE WINDOW! YOU DON'T WANT TO BE A CHILD LEFT BEHIND DO YOU?
SOUNDS GOOD TO ME!
Nkumba University
8 Traits of the 21st Century Teacher
Relevant
Social
Forward Thinking
Collaborative
Lifelong Learner
Actively Engaged
Student Centered
Flipped

Empowered Teachers Ready for 21st Century

Change in Teaching for 21st Century

"We must be the change we want to see in the world."

-- Mahatma Gandhi

"The greatest skill in the next century will be the ability to learn, unlearn, and relearn"

-- Alvin Tofler

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"Effective teaching not only involves imparting significant information and understanding to students, but also involves assessing and evaluating the student's understanding of this information, so that the rest of the teaching can be matched to the present understanding of the students."

-John Hattie and Helen Timperley-

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What is Assessment

Assessment is the process of gathering information on what students know based on their educational experience

Goal of assessment is to evaluate and improve student learning, but the objectives can vary slightly, depending on the type of assessment that's used

Types of Assessments

- Formative assessments occur within an online course or lesson and are used to determine how well a student is learning the material
- Summative assessments are sometimes referred to as a final exam and measures what the student has learned after completing a course

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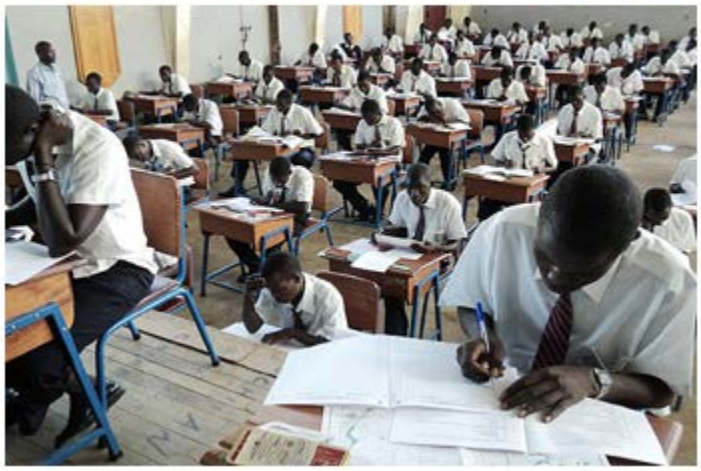
10

- Pause -

Do we really want to Replicate this Online?

Are we ready to loose the rituals, cultures, phobia for exams?



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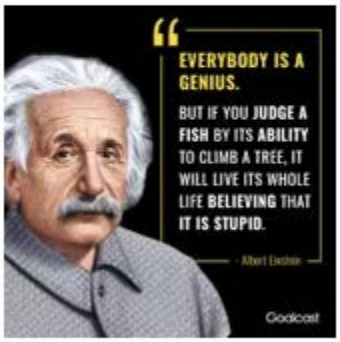
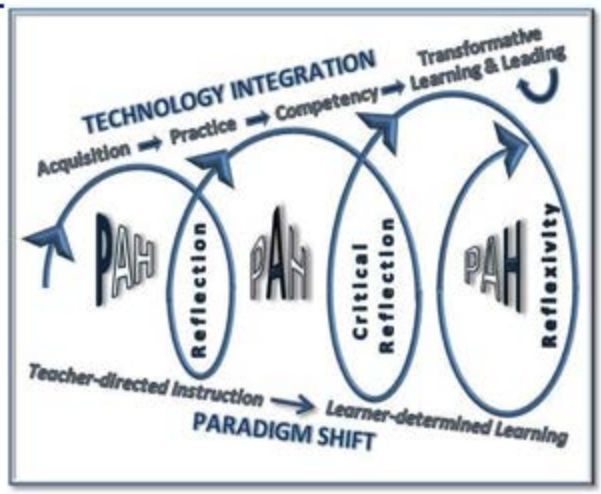
Does this remind you of your past assessment?



Paradigm Shift in assessment?



Role of Assessment

"Assessment is the engine which drives student learning"

(Cowan, 2005)

"Feedback is the lubrication oil that makes assessment really work"

(Race, 1993)

Assessment and feedback are the key elements of students engagement that significantly impact on student engagement and retention

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How is Assessment of Students done Online?

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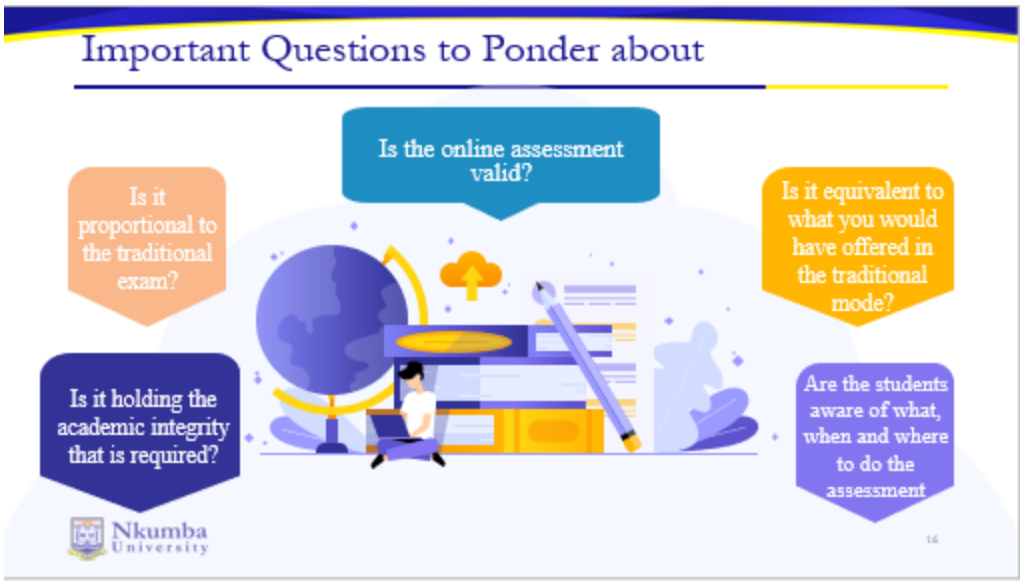
Important Questions to Ponder about
Is it proportional to the traditional exam?
Is the online assessment valid?
Is it equivalent to what you would have offered in the traditional mode?
Is it holding the academic integrity that is required?
Are the students aware of what, when and where to do the assessment
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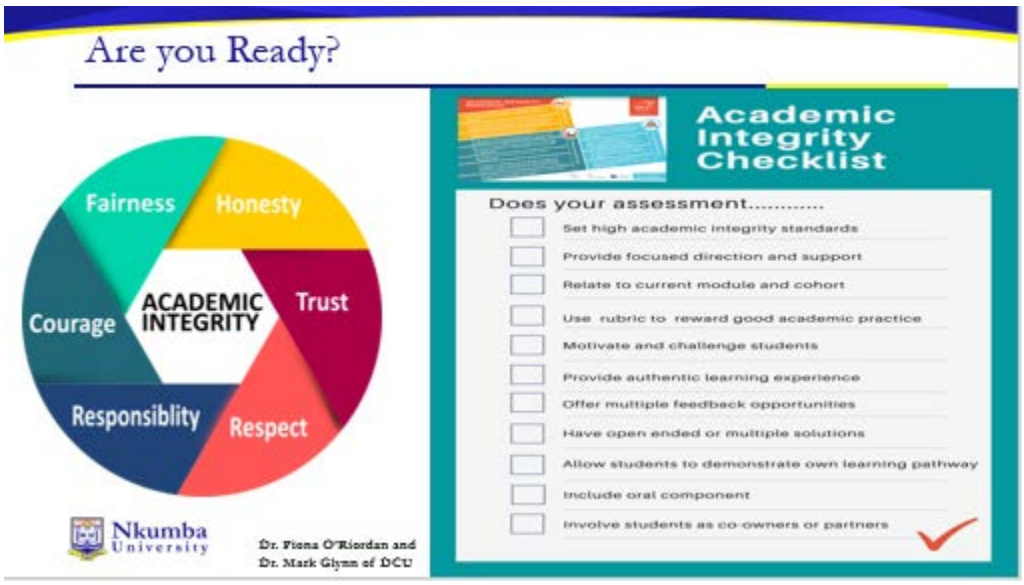
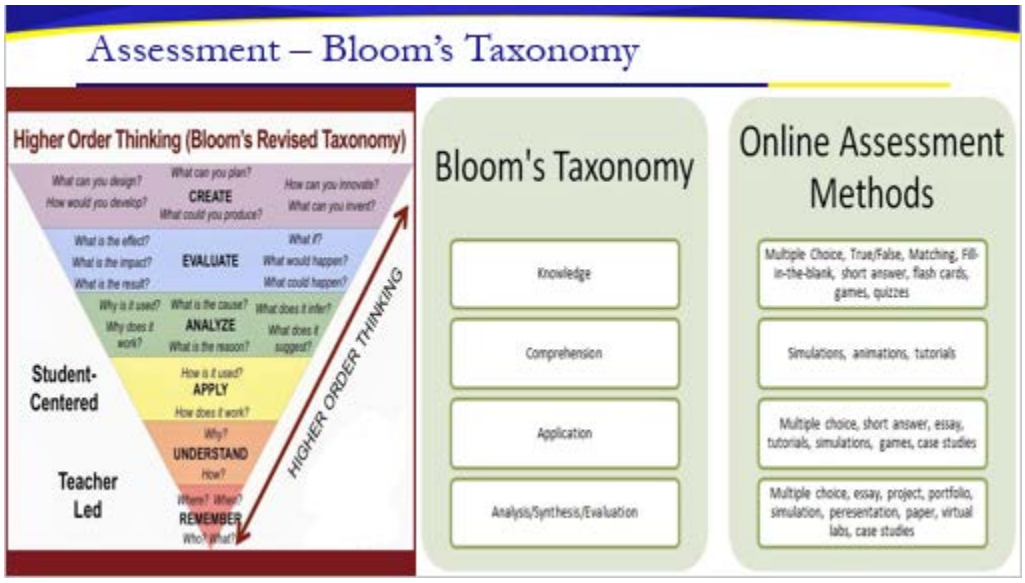
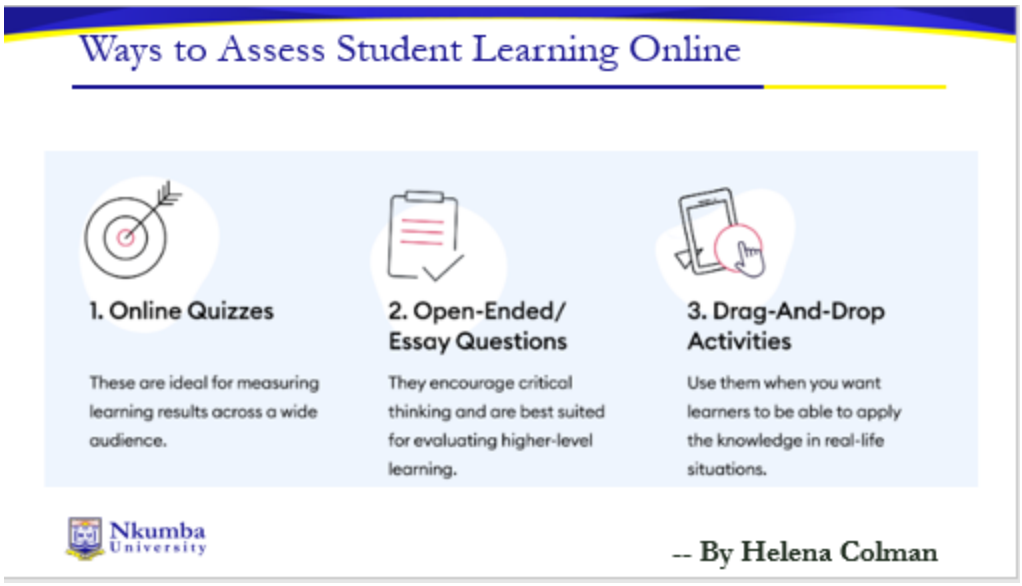

Are you Ready?
Fairness
Honesty
Courage
ACADEMIC INTEGRITY
Trust
Responsiblity
Respect
Nkumba University
Dr. Fiona O'Riordan and Dr. Mark Glynn of DCU
Academic Integrity Checklist
Does your assessment.....
Set high academic integrity standards
Provide focused direction and support
Relate to current module and cohort
Use rubric to reward good academic practice
Motivate and challenge students
Provide authentic learning experience
Offer multiple feedback opportunities
Have open ended or multiple solutions
Allow students to demonstrate own learning pathway
Include oral component
Involve students as co-owners or partners


Assessment – Bloom's Taxonomy
Higher Order Thinking (Bloom's Revised Taxonomy)
CREATE
EVALUATE
ANALYZE
APPLY
UNDERSTAND
REMEMBER
HIGHER ORDER THINKING
Student-Centered
Teacher Led
Bloom's Taxonomy
Knowledge
Comprehension
Application
Analysis/Synthesis/Evaluation
Online Assessment Methods
Multiple Choice, True/False, Matching, Fill-in-the-blank, short answer, flash cards, games, quizzes
Simulations, animations, tutorials
Multiple choice, short answer, essay, tutorials, simulations, games, case studies
Multiple choice, essay, project, portfolio, simulation, peresentation, paper, virtual labs, case studies


Ways to Assess Student Learning Online
1. Online Quizzes
These are ideal for measuring learning results across a wide audience.
2. Open-Ended/ Essay Questions
They encourage critical thinking and are best suited for evaluating higher-level learning.
3. Drag-And-Drop Activities
Use them when you want learners to be able to apply the knowledge in real-life situations.
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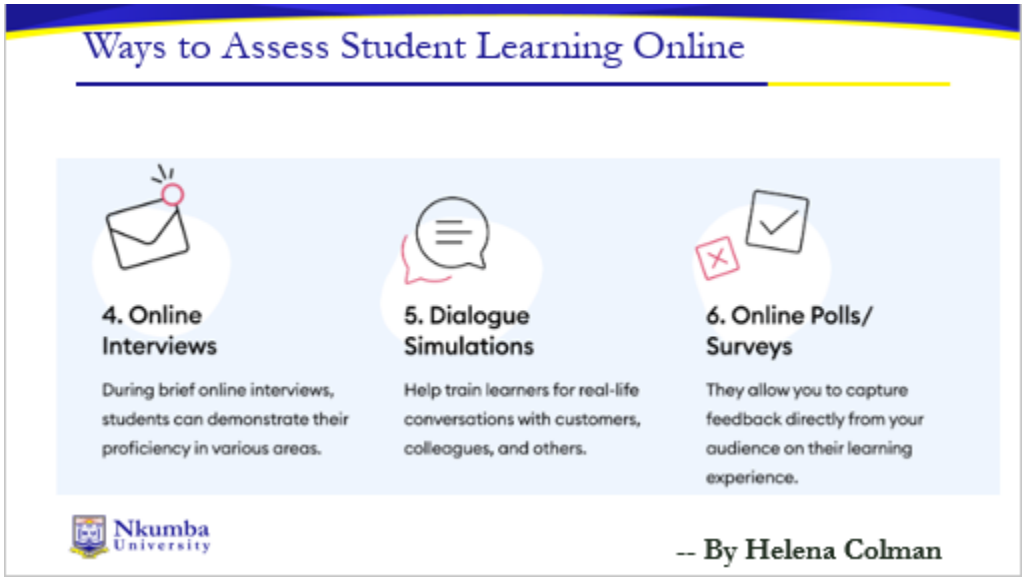
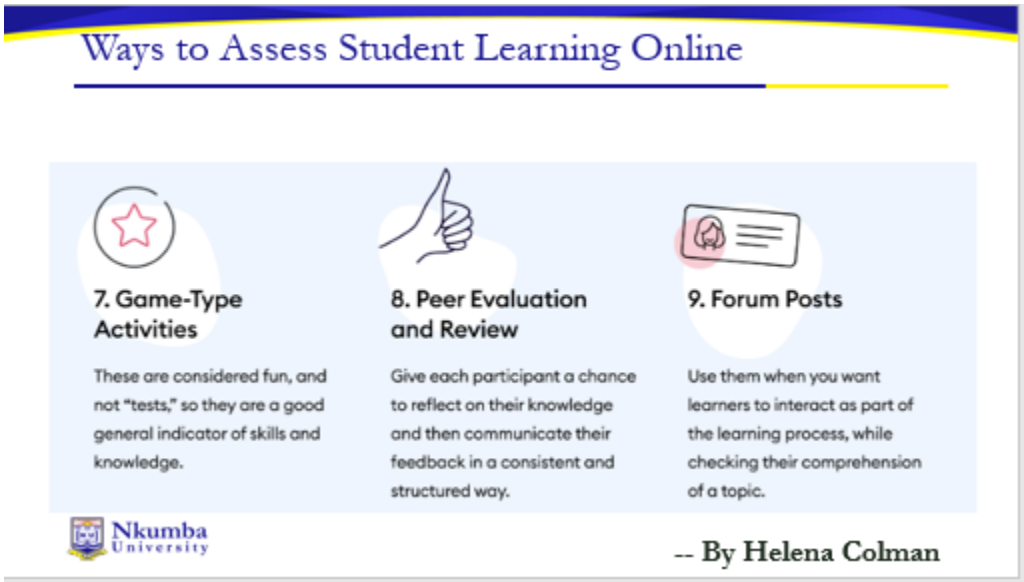
-- By Helena Colman


Ways to Assess Student Learning Online
4. Online Interviews
During brief online interviews, students can demonstrate their proficiency in various areas.
5. Dialogue Simulations
Help train learners for real-life conversations with customers, colleagues, and others.
6. Online Polls/ Surveys
They allow you to capture feedback directly from your audience on their learning experience.
Nkumba University
-- By Helena Colman


Ways to Assess Student Learning Online
7. Game-Type Activities
These are considered fun, and not "tests," so they are a good general indicator of skills and knowledge.
8. Peer Evaluation and Review
Give each participant a chance to reflect on their knowledge and then communicate their feedback in a consistent and structured way.
9. Forum Posts
Use them when you want learners to interact as part of the learning process, while checking their comprehension of a topic.
Nkumba University
-- By Helena Colman

Example – Online Open-book exams

- Online Open-book exams test the student's ability to:
  - Quickly find relevant information
  - Understand, analyse, apply knowledge and think critically
- Open-book exams don't test your memory;
  - They test the student ability to find and use information for problem solving, and to deliver well structured and well-presented arguments and solutions

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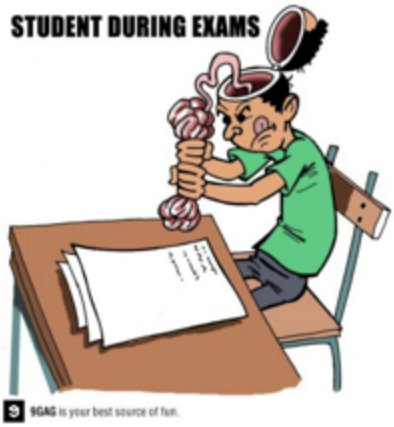

Example – Online Open-book exams

- Oline Open-book exam questions usually require the student to
  - Apply knowledge, apply higher level of critical thinking
  - Usually essay style questions
  - Involve problem solving or delivering solutions.
  - The style of question depends on the school setting the exam.
  - For example, questions may be in form of a hypothetical fact situation that you will need to discuss

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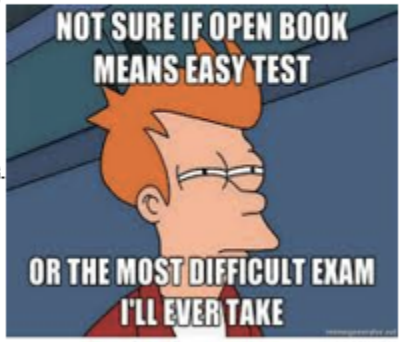

Example – Online Open-book exams

- You may ask questions that are intended to:
- Solve a problem
- Analyse and interpret a set of data
- Critically analyse a case or scenario
- Present a well-evidenced argument on a topic taught in the subject
- Analyse and evaluate an issue or problem by referring to concepts introduced in the subject

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Example – Online Open-book exams

- Think about questions that are:
  - Case-based or Scenario-based or
  - Problem-based questions,
  - Provide students with data to work with and report on,
  - Present issues that require students to generate new solutions,
  - Ask questions that include reflection

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Merits of Online Assessment

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Demerits of Online Assessment

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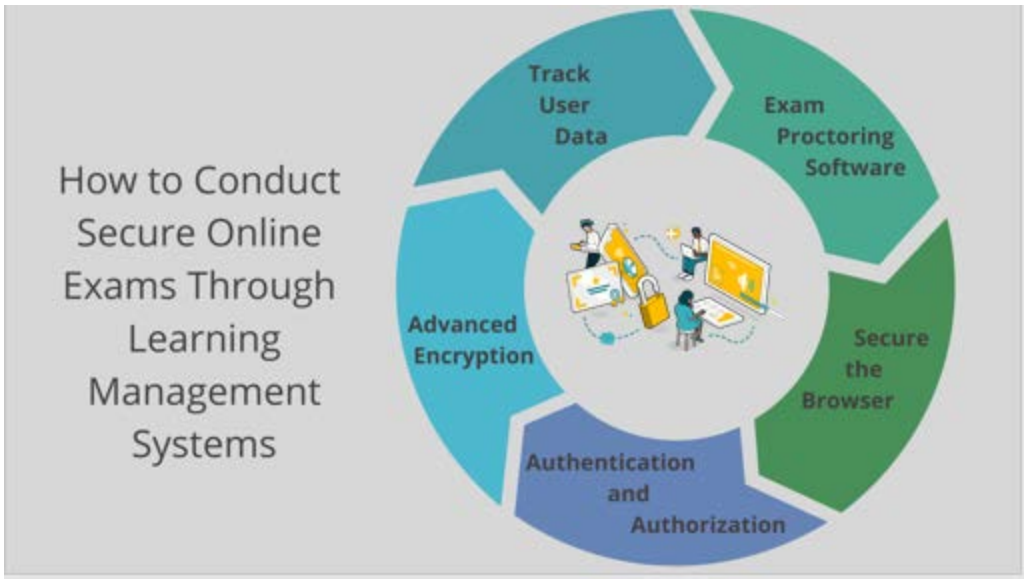
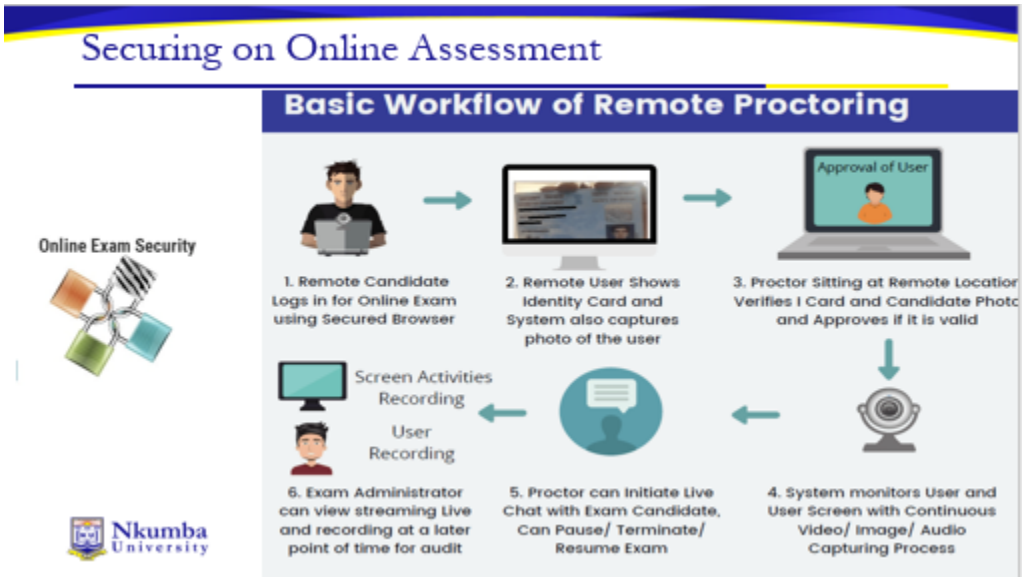

How to Conduct Secure Online Exams Through Learning Management Systems
Track User Data
Exam Proctoring Software
Secure the Browser
Authentication and Authorization
Advanced Encryption


Securing on Online Assessment
Basic Workflow of Remote Proctoring
Online Exam Security
Approval of User
1. Remote Candidate Logs in for Online Exam using Secured Browser
2. Remote User Shows Identity Card and System also captures photo of the user
3. Proctor Sitting at Remote Location Verifies I Card and Candidate Photo and Approves if it is valid
4. System monitors User and User Screen with Continuous Video/ Image/ Audio Capturing Process
5. Proctor can Initiate Live Chat with Exam Candidate, Can Pause/ Terminate/ Resume Exam
6. Exam Administrator can view streaming Live and recording at a later point of time for audit
Screen Activities Recording
User Recording
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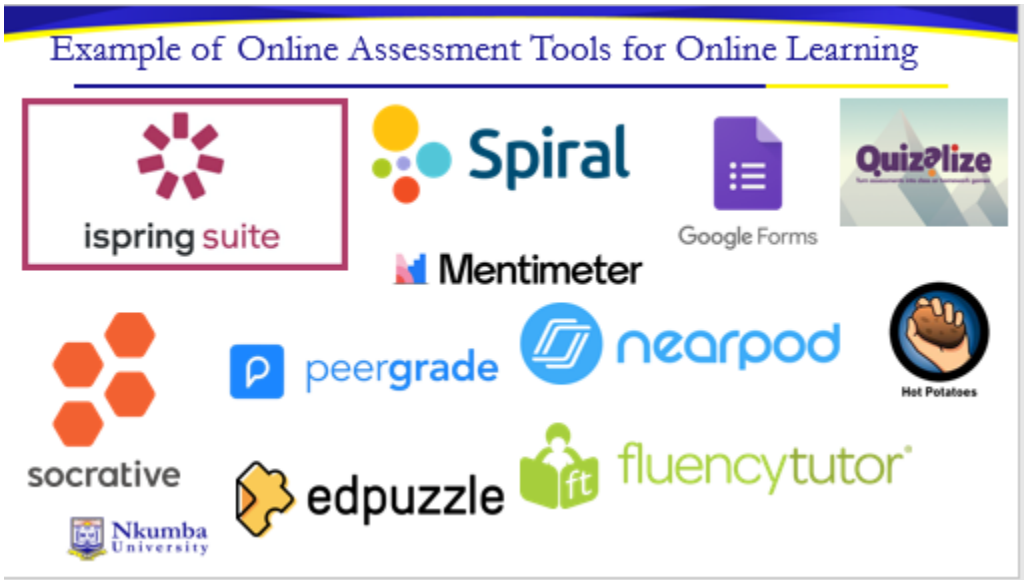
Example of Online Assessment Tools for Online Learning
ispring suite
Spiral
Google Forms
Quizalize
Mentimeter
socrative
peergrade
nearpod
Hot Potatoes
edpuzzle
fluencytutor
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THANK YOU
FOR LISTENING
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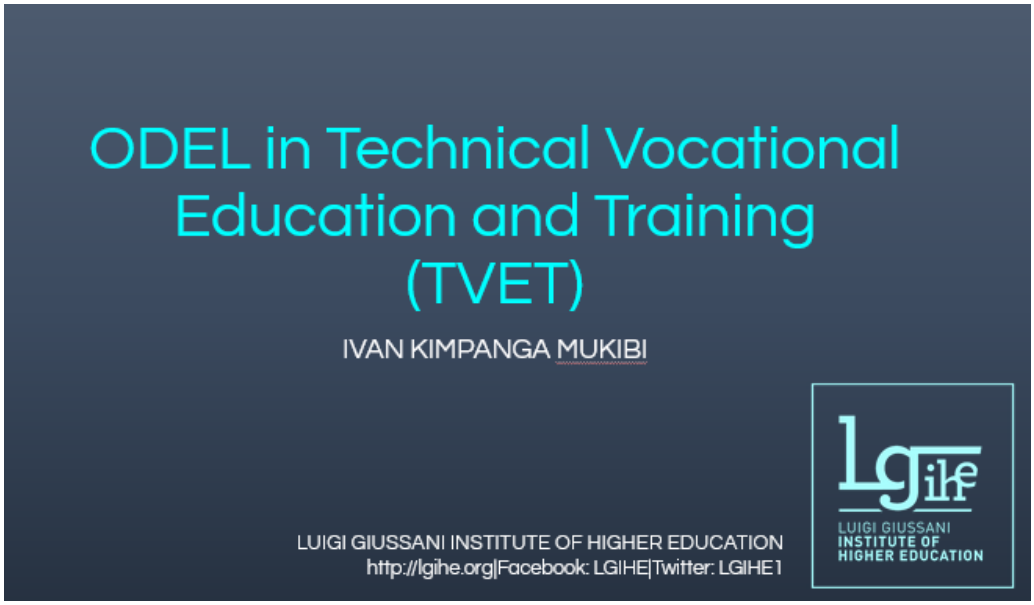
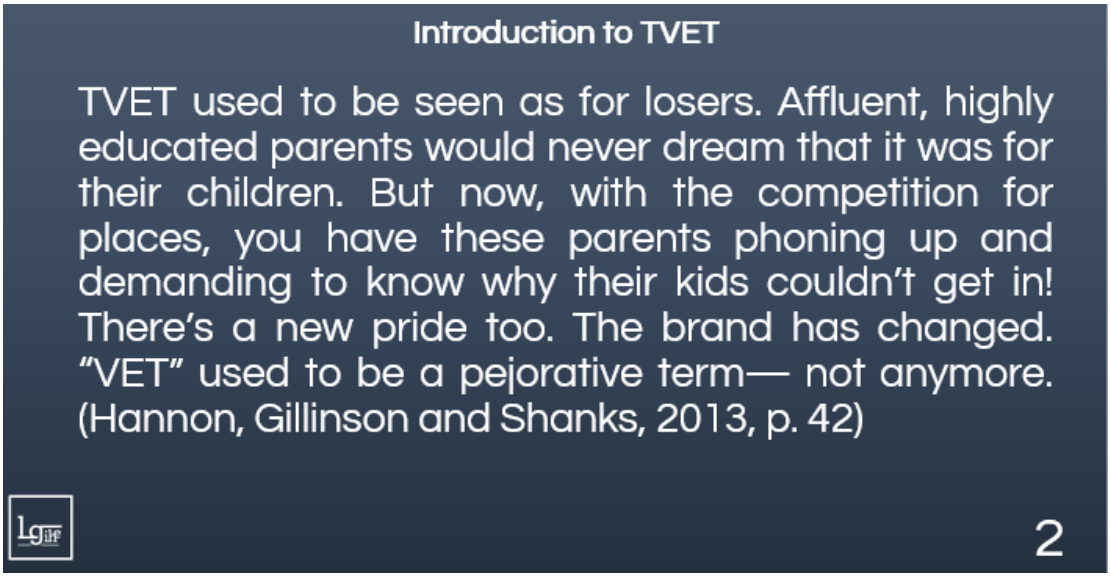
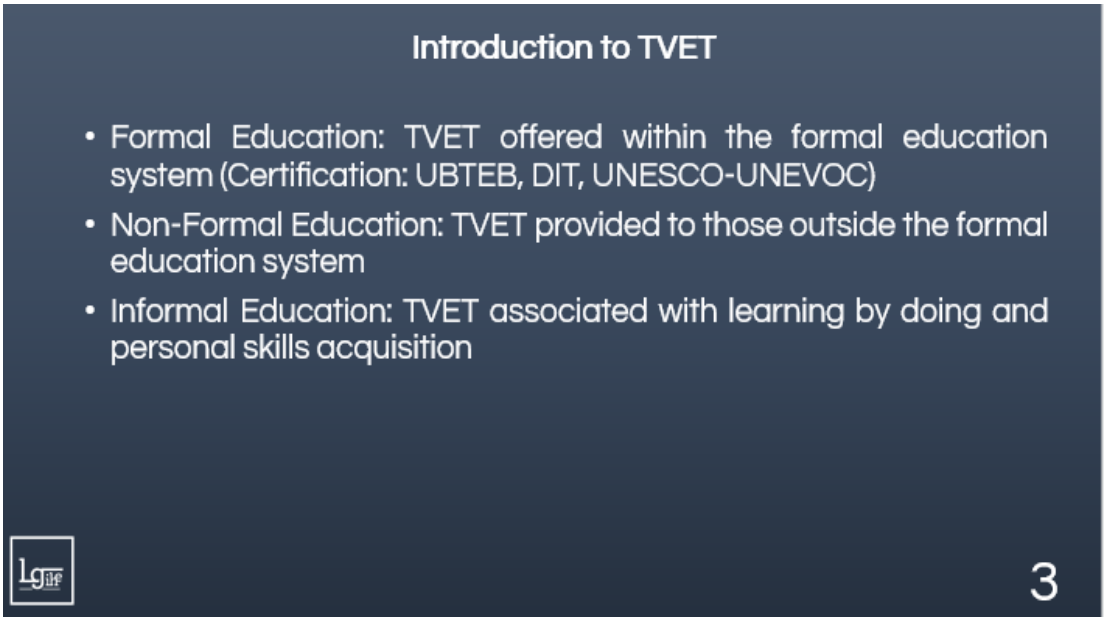
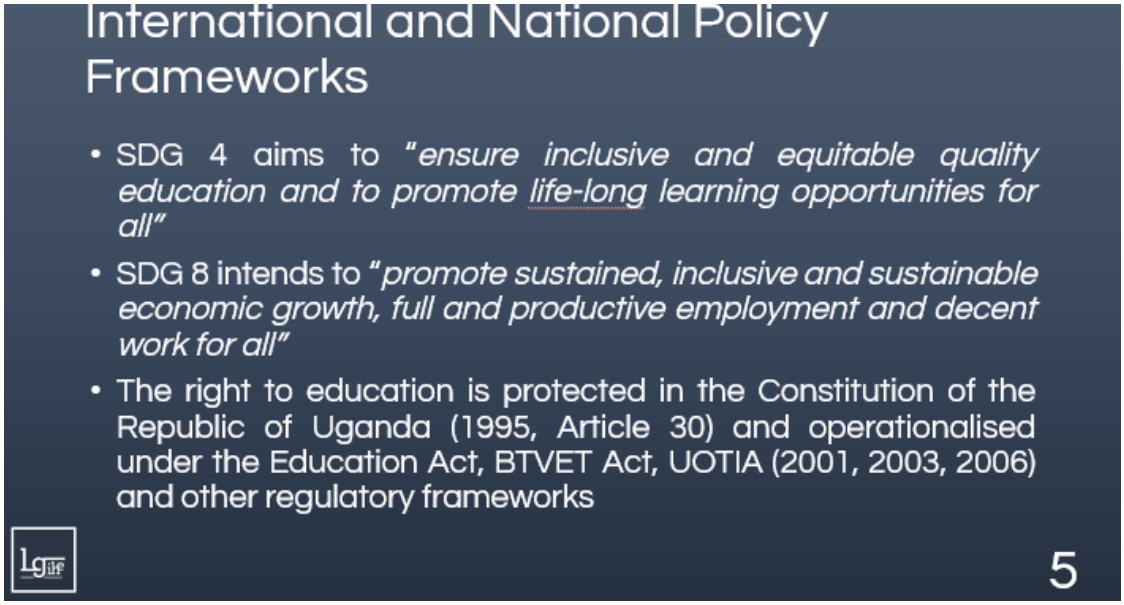
Presentation: ODeL in Technical Vocational Education and Training (TVET)

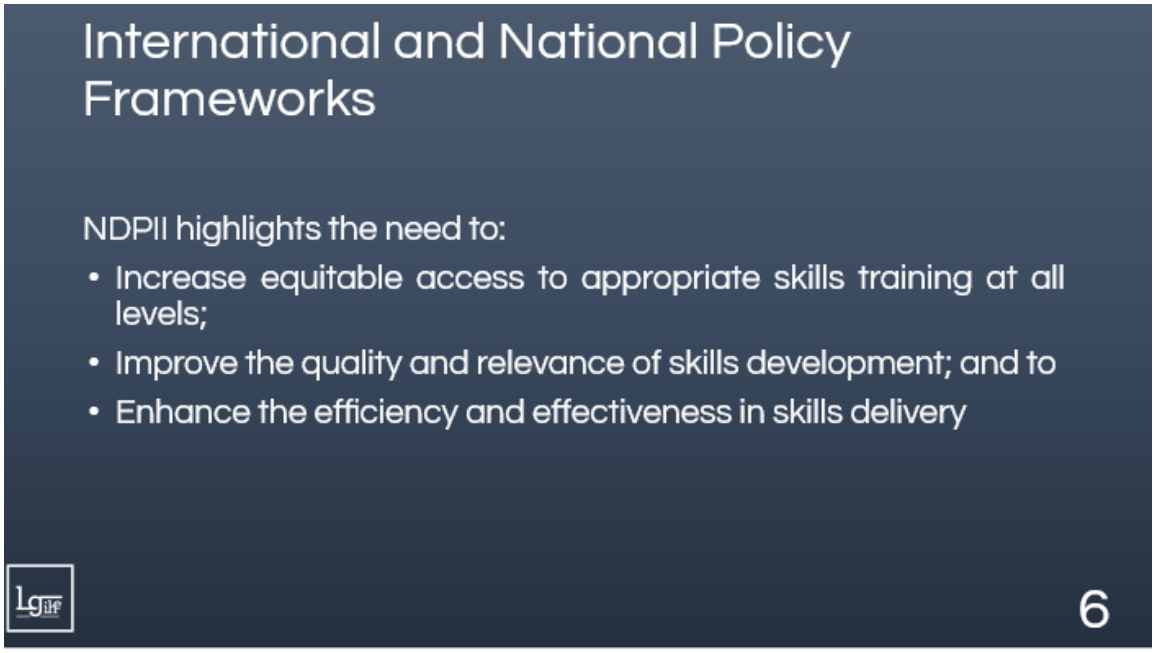





Introduction to TVET
• Formal Education: TVET offered within the formal education system (Certification: UBTEB, DIT, UNESCO-UNEVOC)
• Non-Formal Education: TVET provided to those outside the formal education system
• Informal Education: TVET associated with learning by doing and personal skills acquisition
3

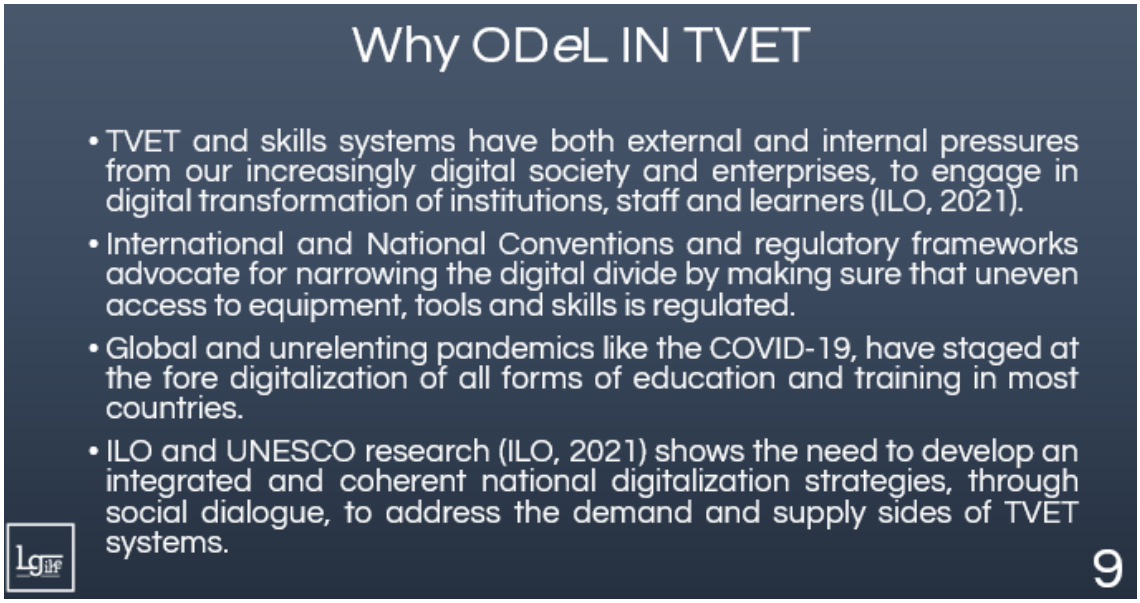

TVET POLICY (MoES, 2019)
• International Conventions on Education
• The Constitution of the Republic of Uganda (1995)
• Uganda Vision 2040
• National Development Plan Phase Two & Three (NDP II & III)
• TVET Policy and Legal Framework, Policy Objectives and Strategies
4

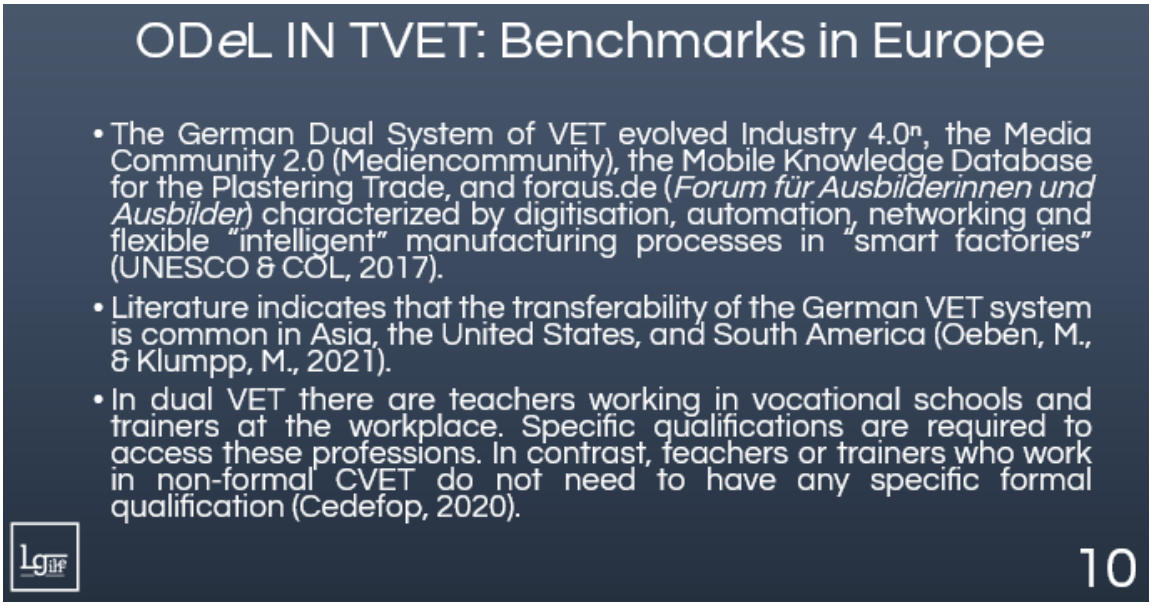

International and National Policy Frameworks
• SDG 4 aims to "ensure inclusive and equitable quality education and to promote life-long learning opportunities for all"
• SDG 8 intends to "promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all"
• The right to education is protected in the Constitution of the Republic of Uganda (1995, Article 30) and operationalised under the Education Act, BTVET Act, UOTIA (2001, 2003, 2006) and other regulatory frameworks
5

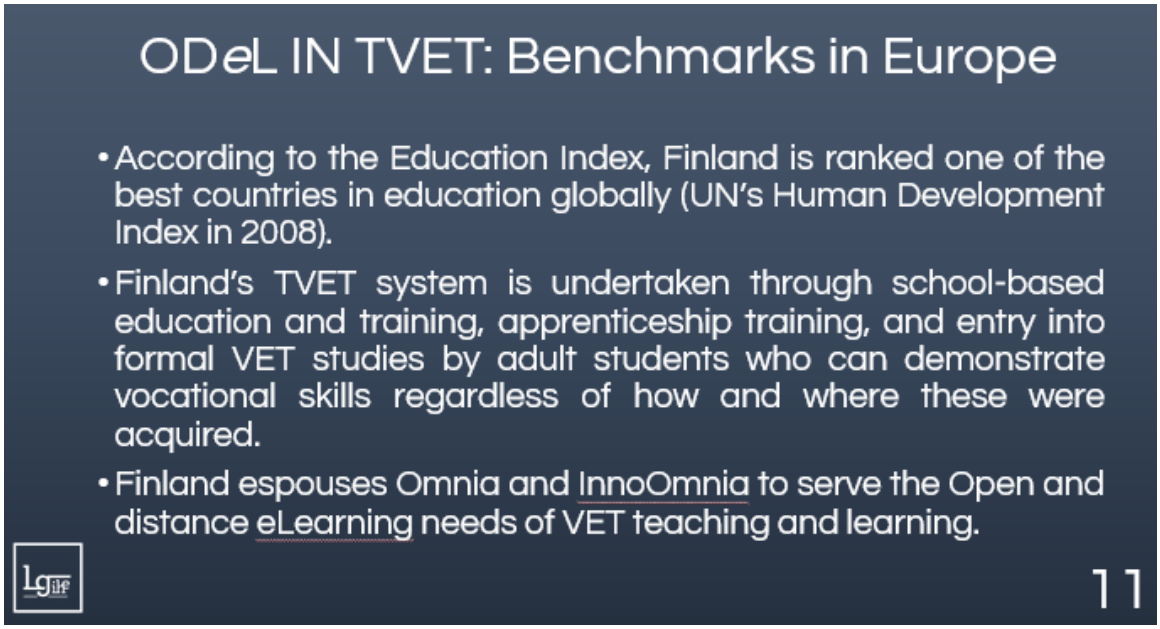

International and National Policy Frameworks
NDPII highlights the need to:
• Increase equitable access to appropriate skills training at all levels;
• Improve the quality and relevance of skills development; and to
• Enhance the efficiency and effectiveness in skills delivery
6

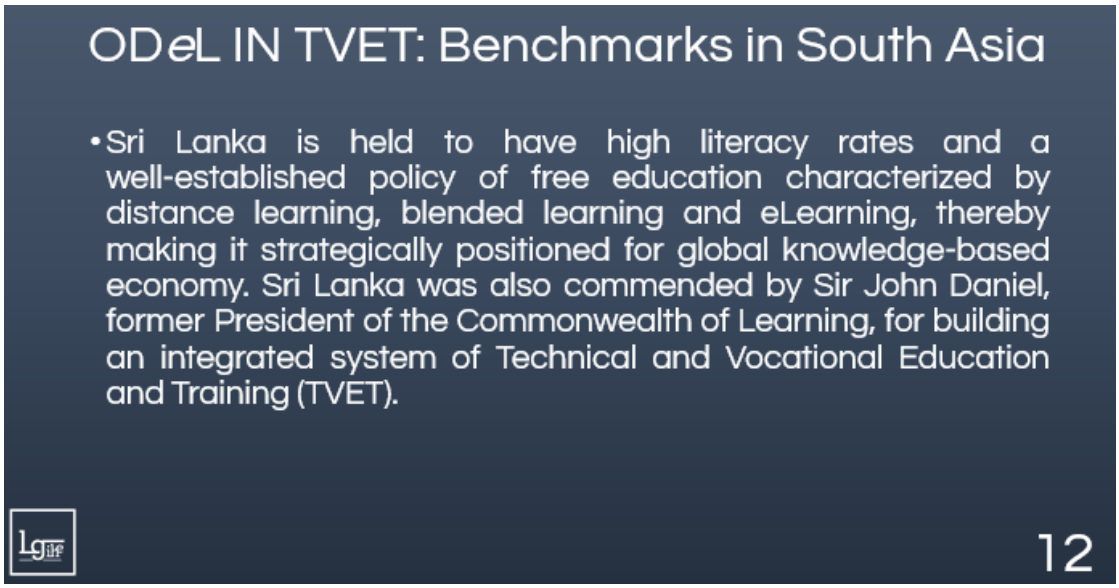

The TVET policy vision is
• "a coordinated, labour-market responsive TVET system, producing a skilled, high-quality, competent workforce that is employable and responsive to the national needs and is globally competitive to support Uganda's sustainable economic, social and environmental development." (MoES, 2019)
7

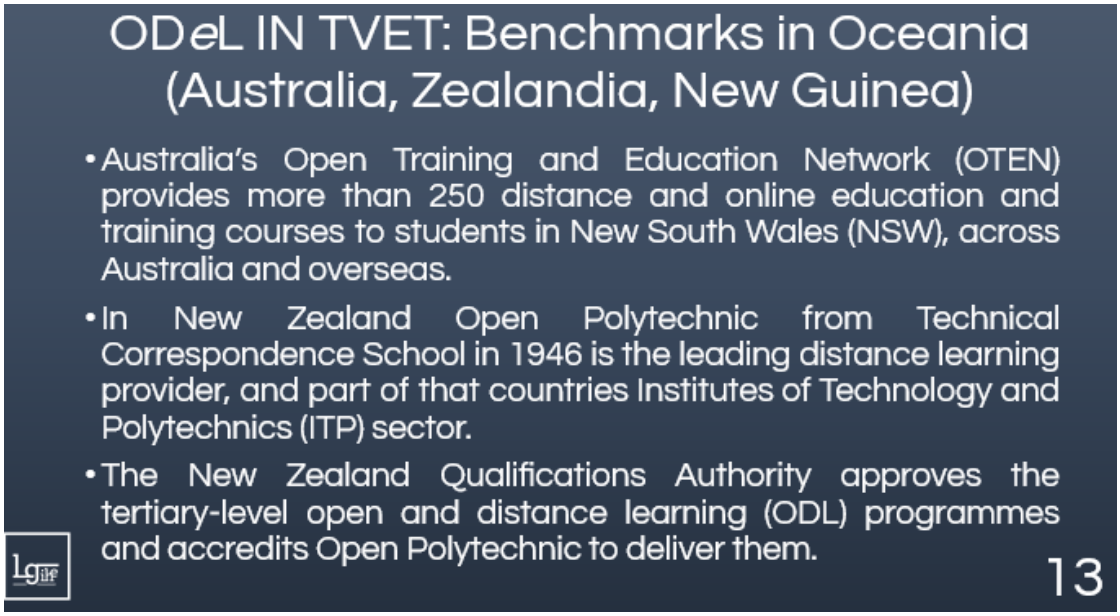

The TVET policy mission is
• "to promote, regulate, provide, coordinate, and develop an inclusive, flexible, and equitable TVET system through; registration, licensing, accreditation and development of institutions, programmes and trainers, for delivering a relevant and competent workforce responsive to the requirements of the labour market." (MoES, 2019)
8

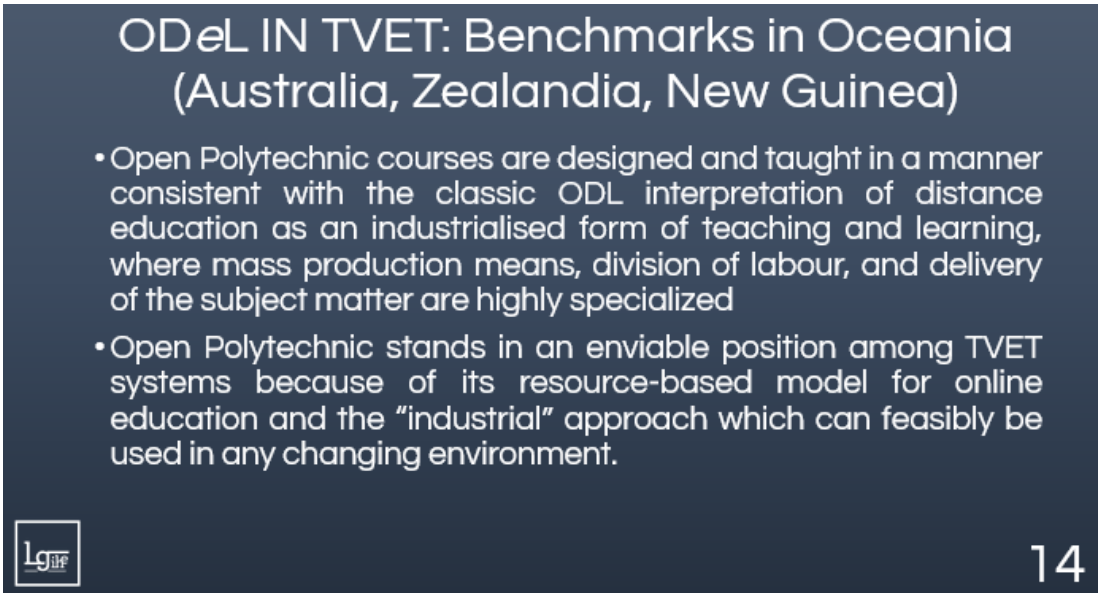

Why ODeL IN TVET
• TVET and skills systems have both external and internal pressures from our increasingly digital society and enterprises, to engage in digital transformation of institutions, staff and learners (ILO, 2021).
• International and National Conventions and regulatory frameworks advocate for narrowing the digital divide by making sure that uneven access to equipment, tools and skills is regulated.
• Global and unrelenting pandemics like the COVID-19, have staged at the fore digitalization of all forms of education and training in most countries.
• ILO and UNESCO research (ILO, 2021) shows the need to develop an integrated and coherent national digitalization strategies, through social dialogue, to address the demand and supply sides of TVET systems.
9

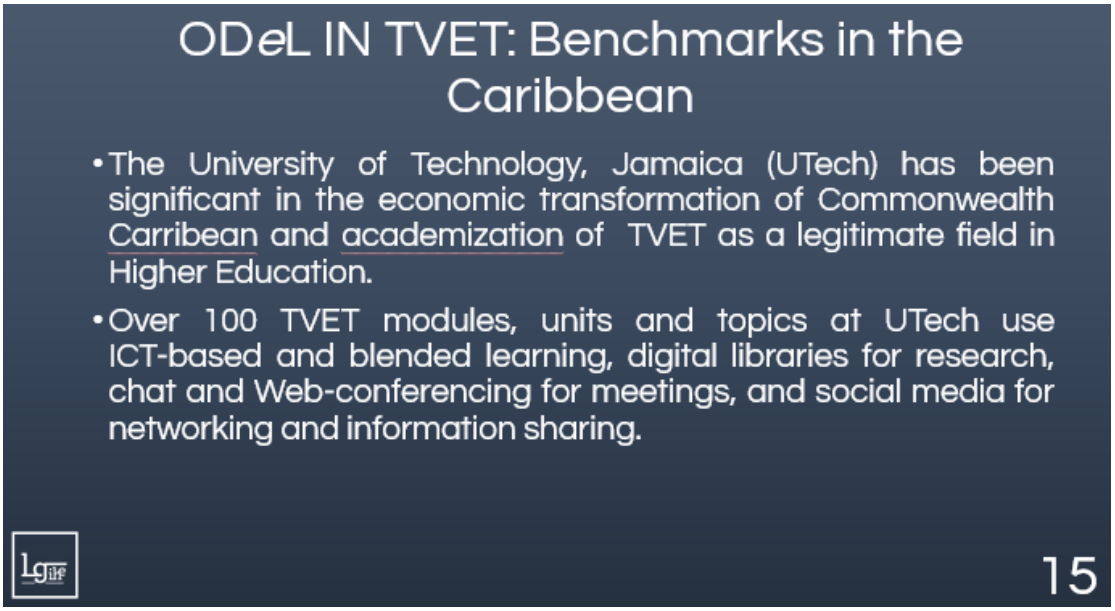

ODeL IN TVET: Benchmarks in Europe
• The German Dual System of VET evolved Industry 4.0ⁿ, the Media Community 2.0 (Mediencommunity), the Mobile Knowledge Database for the Plastering Trade, and foraus.de (*Forum für Ausbilderinnen und Ausbilder*) characterized by digitisation, automation, networking and flexible "intelligent" manufacturing processes in "smart factories" (UNESCO & COL, 2017).
• Literature indicates that the transferability of the German VET system is common in Asia, the United States, and South America (Oeben, M., & Klumpp, M., 2021).
• In dual VET there are teachers working in vocational schools and trainers at the workplace. Specific qualifications are required to access these professions. In contrast, teachers or trainers who work in non-formal CVET do not need to have any specific formal qualification (Cedefop, 2020).
10

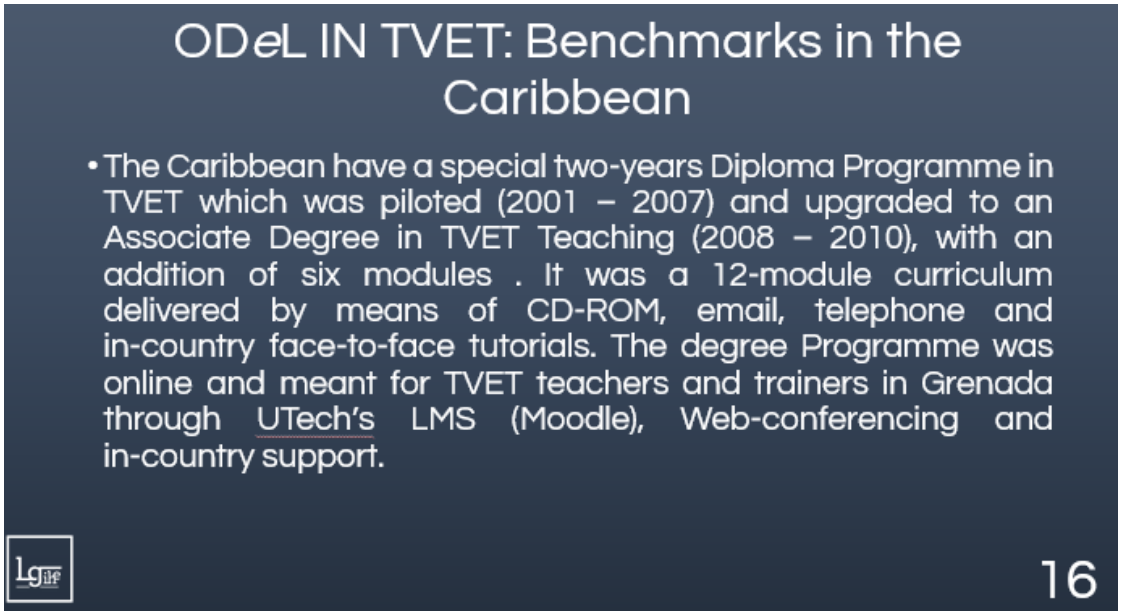

ODeL IN TVET: Benchmarks in Europe
• According to the Education Index, Finland is ranked one of the best countries in education globally (UN's Human Development Index in 2008).
• Finland's TVET system is undertaken through school-based education and training, apprenticeship training, and entry into formal VET studies by adult students who can demonstrate vocational skills regardless of how and where these were acquired.
• Finland espouses Omnia and InnoOmnia to serve the Open and distance eLearning needs of VET teaching and learning.
11

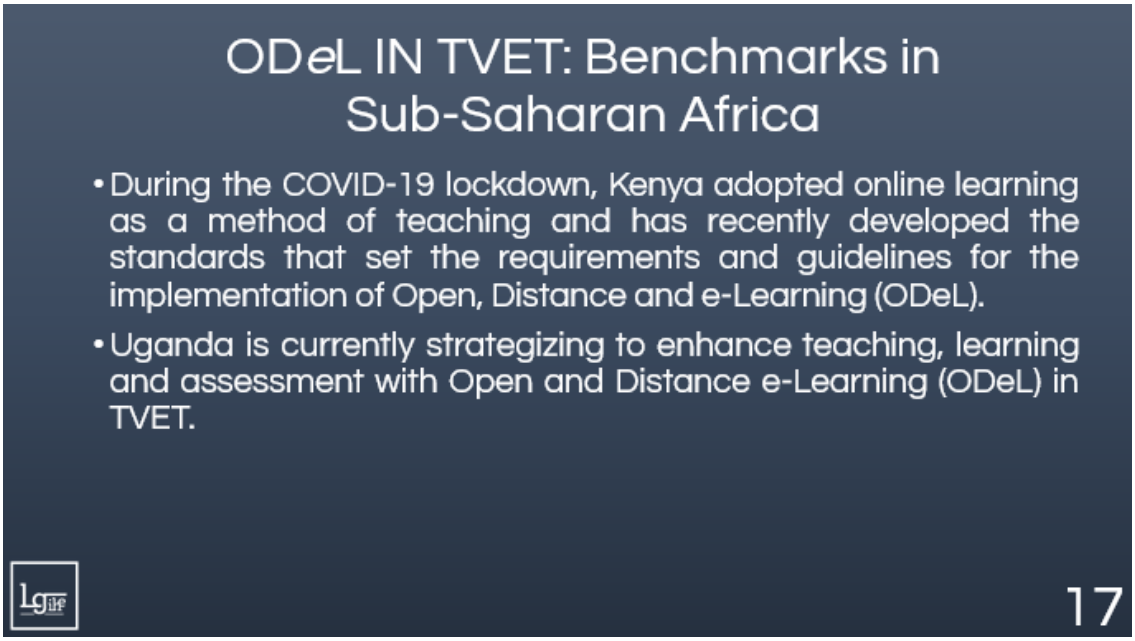

ODeL IN TVET: Benchmarks in South Asia
• Sri Lanka is held to have high literacy rates and a well-established policy of free education characterized by distance learning, blended learning and eLearning, thereby making it strategically positioned for global knowledge-based economy. Sri Lanka was also commended by Sir John Daniel, former President of the Commonwealth of Learning, for building an integrated system of Technical and Vocational Education and Training (TVET).
12

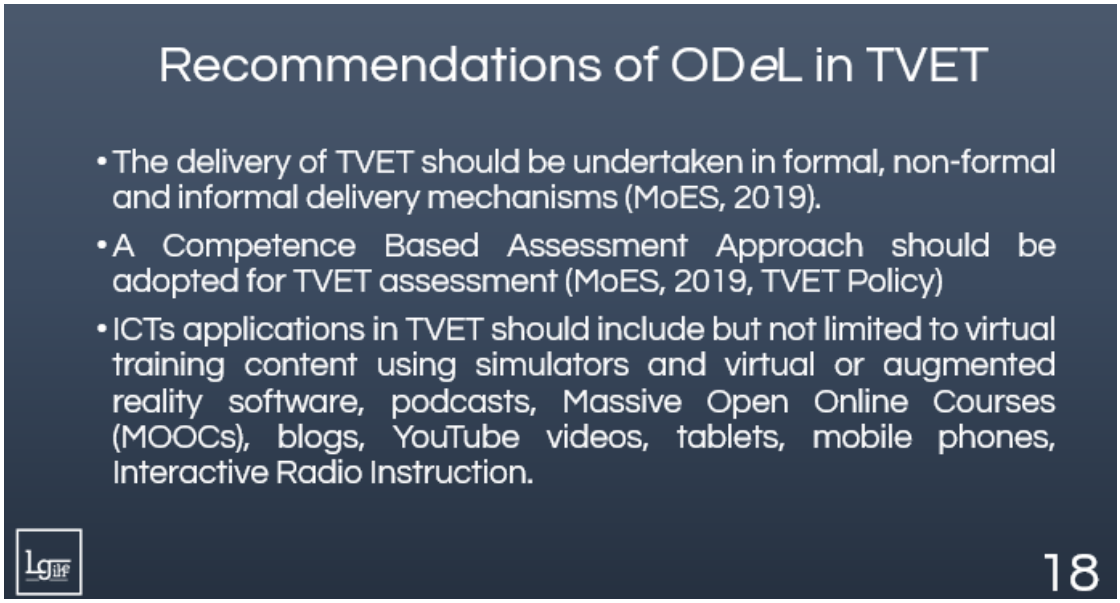

ODeL IN TVET: Benchmarks in Oceania (Australia, Zealandia, New Guinea)
• Australia's Open Training and Education Network (OTEN) provides more than 250 distance and online education and training courses to students in New South Wales (NSW), across Australia and overseas.
• In New Zealand Open Polytechnic from Technical Correspondence School in 1946 is the leading distance learning provider, and part of that countries Institutes of Technology and Polytechnics (ITP) sector.
• The New Zealand Qualifications Authority approves the tertiary-level open and distance learning (ODL) programmes and accredits Open Polytechnic to deliver them.
13

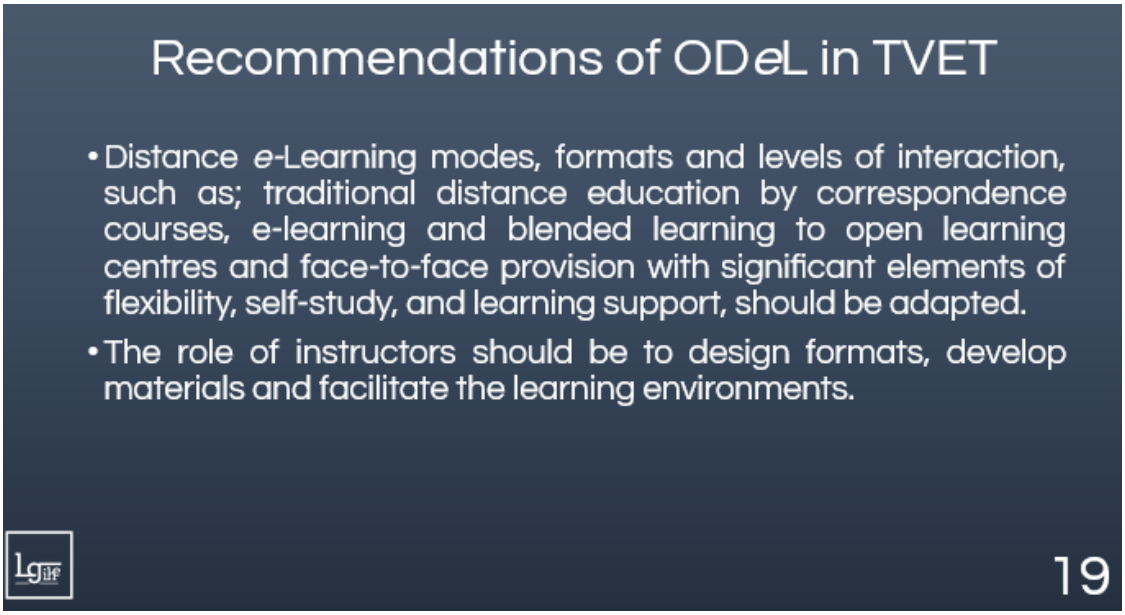

ODeL IN TVET: Benchmarks in Oceania (Australia, Zealandia, New Guinea)
• Open Polytechnic courses are designed and taught in a manner consistent with the classic ODL interpretation of distance education as an industrialised form of teaching and learning, where mass production means, division of labour, and delivery of the subject matter are highly specialized
• Open Polytechnic stands in an enviable position among TVET systems because of its resource-based model for online education and the "industrial" approach which can feasibly be used in any changing environment.
14

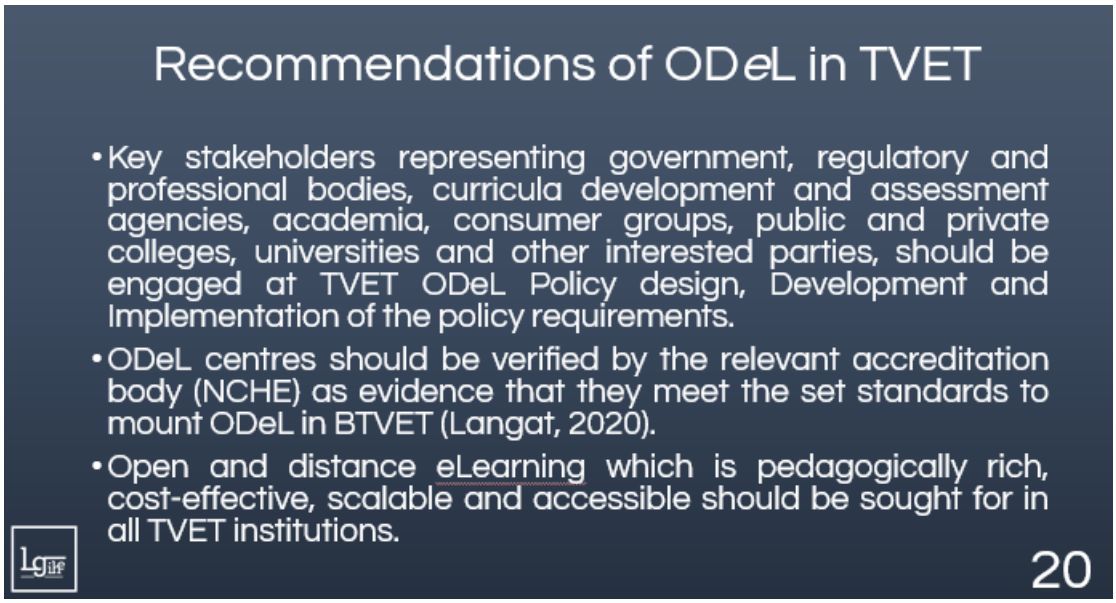

ODeL IN TVET: Benchmarks in the Caribbean
• The University of Technology, Jamaica (UTech) has been significant in the economic transformation of Commonwealth Carribean and academization of TVET as a legitimate field in Higher Education.
• Over 100 TVET modules, units and topics at UTech use ICT-based and blended learning, digital libraries for research, chat and Web-conferencing for meetings, and social media for networking and information sharing.
15


ODeL IN TVET: Benchmarks in the Caribbean
• The Caribbean have a special two-years Diploma Programme in TVET which was piloted (2001 – 2007) and upgraded to an Associate Degree in TVET Teaching (2008 – 2010), with an addition of six modules . It was a 12-module curriculum delivered by means of CD-ROM, email, telephone and in-country face-to-face tutorials. The degree Programme was online and meant for TVET teachers and trainers in Grenada through UTech's LMS (Moodle), Web-conferencing and in-country support.
16


ODeL IN TVET: Benchmarks in Sub-Saharan Africa
• During the COVID-19 lockdown, Kenya adopted online learning as a method of teaching and has recently developed the standards that set the requirements and guidelines for the implementation of Open, Distance and e-Learning (ODeL).
• Uganda is currently strategizing to enhance teaching, learning and assessment with Open and Distance e-Learning (ODeL) in TVET.
17


Recommendations of ODeL in TVET
• The delivery of TVET should be undertaken in formal, non-formal and informal delivery mechanisms (MoES, 2019).
• A Competence Based Assessment Approach should be adopted for TVET assessment (MoES, 2019, TVET Policy)
• ICTs applications in TVET should include but not limited to virtual training content using simulators and virtual or augmented reality software, podcasts, Massive Open Online Courses (MOOCs), blogs, YouTube videos, tablets, mobile phones, Interactive Radio Instruction.
18


Recommendations of ODeL in TVET
• Distance e-Learning modes, formats and levels of interaction, such as; traditional distance education by correspondence courses, e-learning and blended learning to open learning centres and face-to-face provision with significant elements of flexibility, self-study, and learning support, should be adapted.
• The role of instructors should be to design formats, develop materials and facilitate the learning environments.
19


Recommendations of ODeL in TVET
• Key stakeholders representing government, regulatory and professional bodies, curricula development and assessment agencies, academia, consumer groups, public and private colleges, universities and other interested parties, should be engaged at TVET ODeL Policy design, Development and Implementation of the policy requirements.
• ODeL centres should be verified by the relevant accreditation body (NCHE) as evidence that they meet the set standards to mount ODeL in BTVET (Langat, 2020).
• Open and distance eLearning which is pedagogically rich, cost-effective, scalable and accessible should be sought for in all TVET institutions.
20

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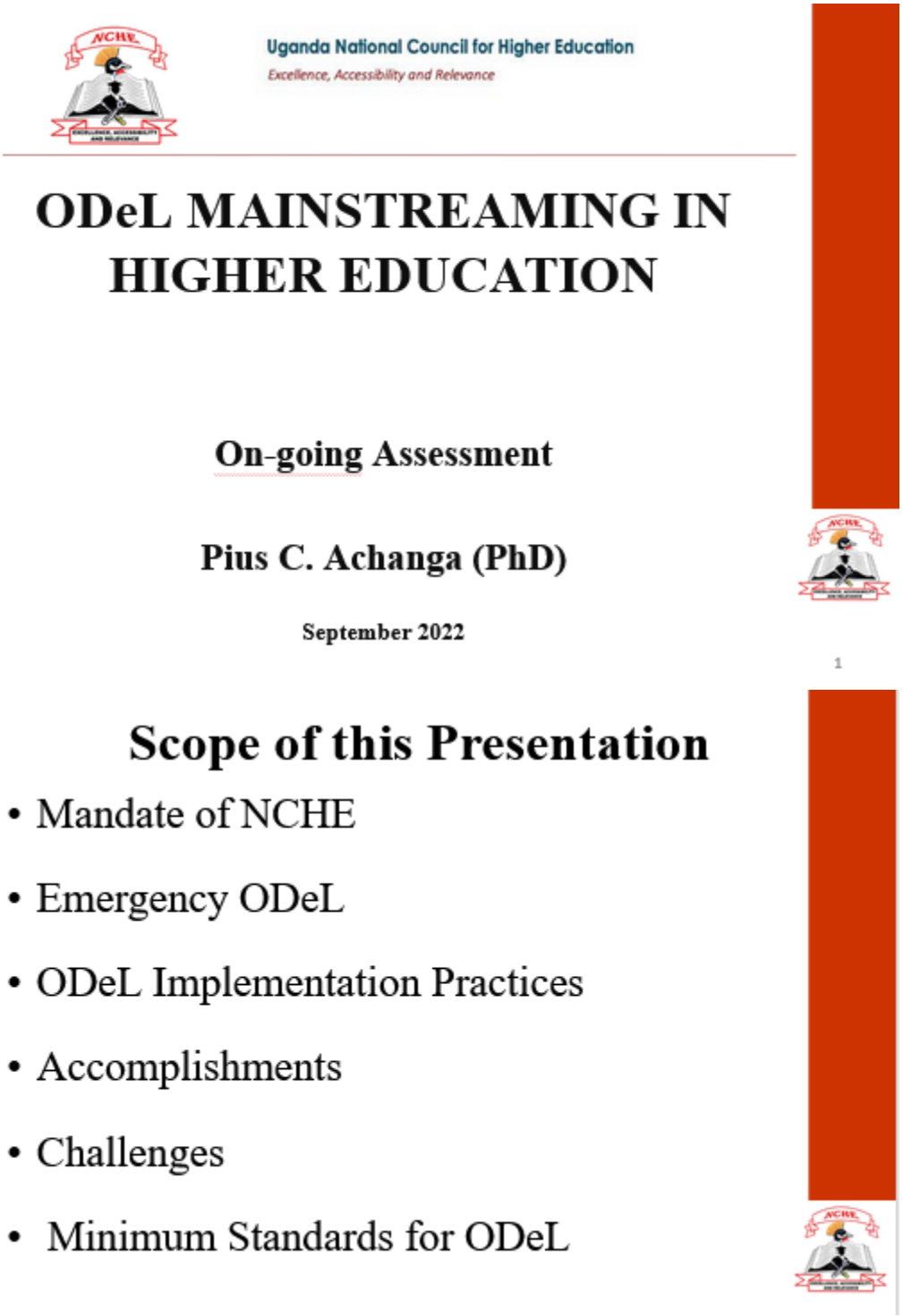
- UNESCO and COMMONWEALTH OF LEARNING (2017). Using ICTs and Blended Learning in Transforming TVET, Edited by Colin Latchem. UNESCO: Paris, France. COL: Burnaby, Canada. UNESCO ISBN 978-92-3-100212-0, COL ISBN 978-1-894975-85-8.

21

Presentation: ODeL Mainstreaming in Higher Education



Mandate

- Section 5d(ii) of the Universities and Other Tertiary Institutions Act, (UOTIA) 2001

NCHE is mandated to monitor, evaluate and regulate institutions of Higher Education.

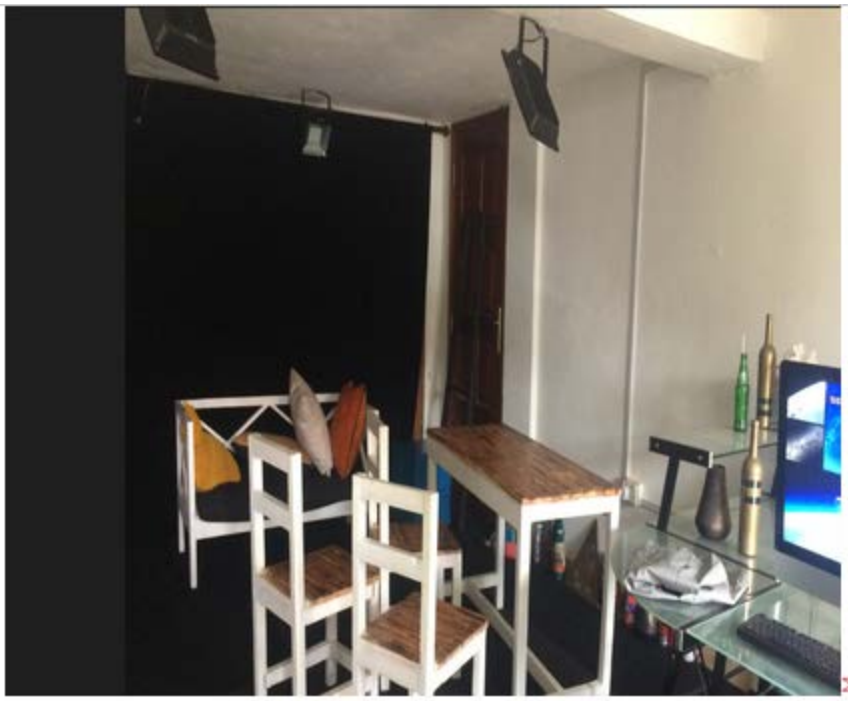
Emergency ODeL

- Genesis of ODeL before and during the Covid-19 Pandemic Period.
- Why the Emergency ODeL (assessment of HEIs)
- Transition to full ODeL (Assessment of HEIs)

Institutional Accomplishments

- ODeL enabled continuous teaching and learning without closing during the Covid 19 Period.
- Ease of students monitoring for attendance online unlike before.
- Improved interactivity between the students and the course facilitators, and also with the learning materials.
- Continuity of a learning session at different intervals (Lectures are recorded and can be accessed and used by the students even after the lesson).

5



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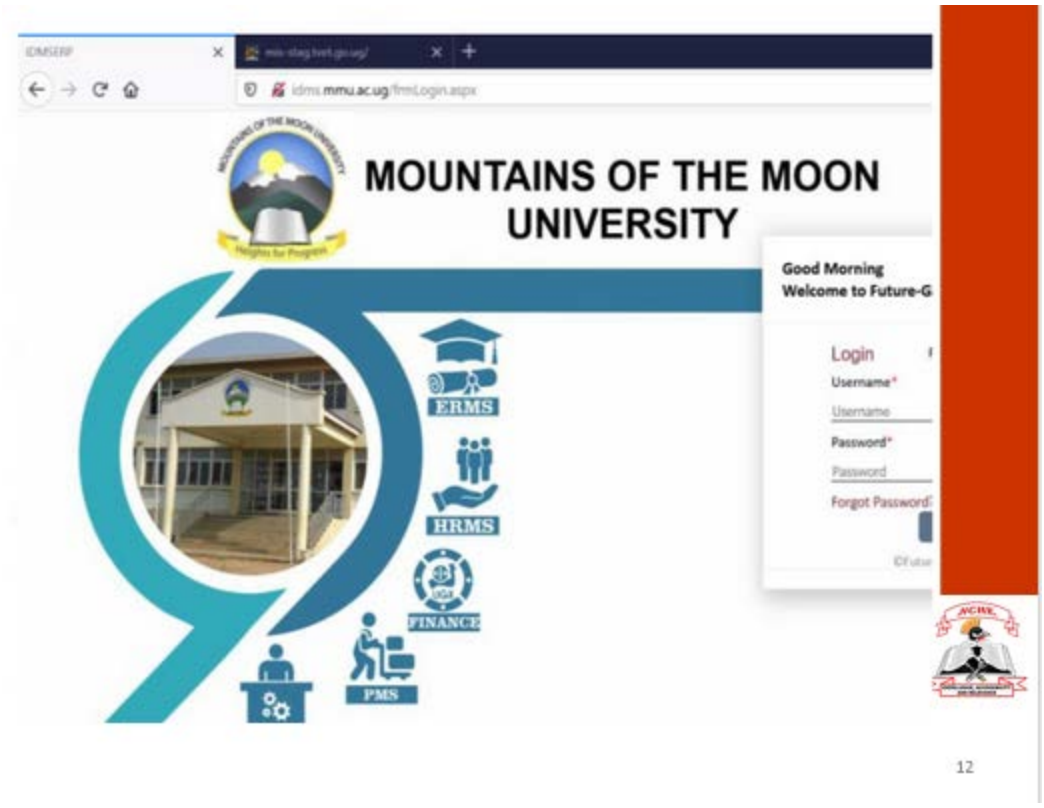
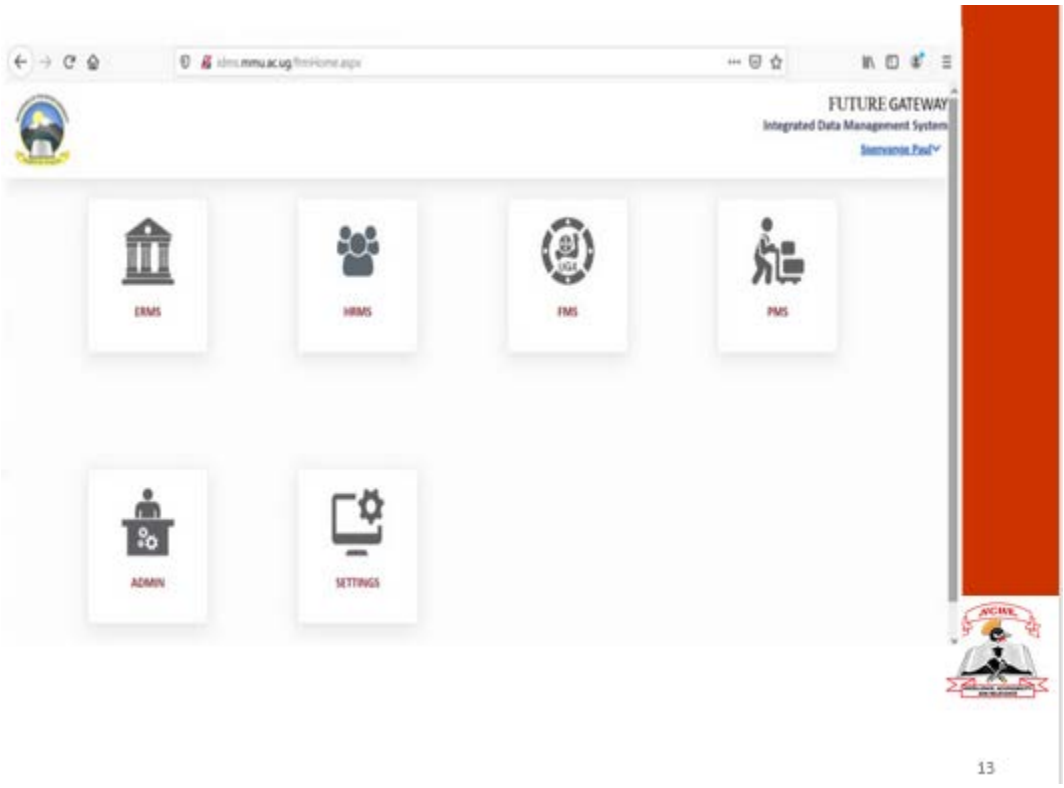
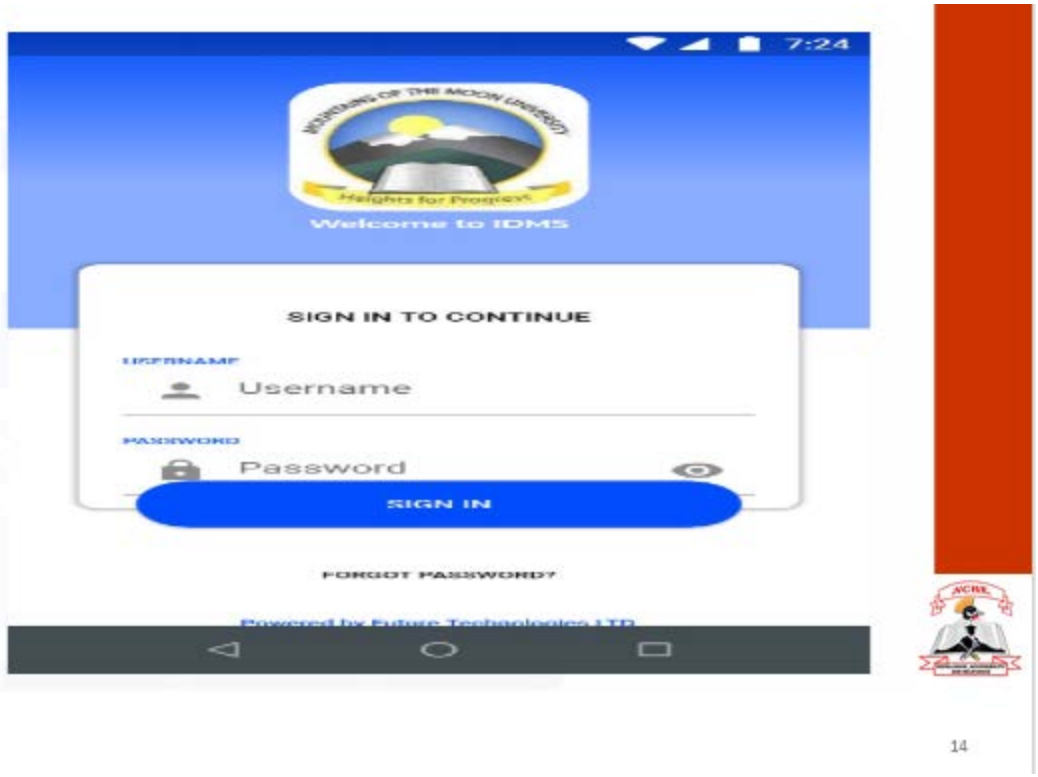
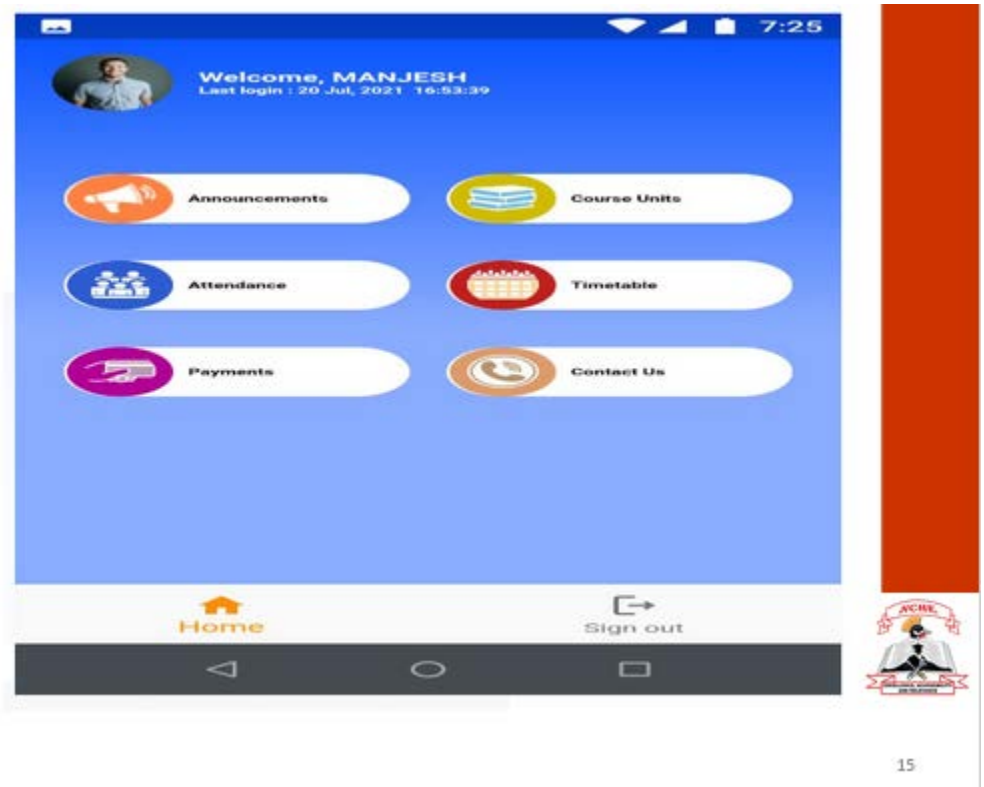

idms.mmu.ac.ug/frmLogin.aspx
MOUNTAINS OF THE MOON UNIVERSITY
Good Morning
Welcome to Future-G
Login
Username*
Username
Password*
Password
Forgot Password?
ERMS
HRMS
FINANCE
PMS
12


FUTURE GATEWAY
Integrated Data Management System
ERMS
HRMS
FMS
PMS
ADMIN
SETTINGS
13


7:24
Welcome to IDMS
SIGN IN TO CONTINUE
Username
Password
SIGN IN
FORGOT PASSWORD?

14


7:25
Welcome, MANJESH
Last login : 20 Jul, 2021 16:53:39
Announcements
Course Units
Attendance
Timetable
Payments
Contact Us
Home
Sign out

15

ODeL Implementation Practices

- Though promising the level of ODeL adoption is still decimal
- Investment in ODeL infrastructure is steadily increasing, (LMSs have been secured)
- Blended learning approach (having physical classes and online classes) has become a common practice
- Technical staff are still inadequate in terms of quantity and quality
- Zero-rating services from internet providers are being embraced by many institutions
- HEIs have developed some online learning monitoring tools and are investing in e-library resources

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Institutional Implementation Challenges

- Internet Interruptions (i.e. on and off)
- Frequent power failures
- Students sometimes log in and move away from their gadgets
- Challenging to organise practical sessions on line

17

Institutional Implementation Challenges

- Limited skills and knowledge of staff and students
- Destructive Learning Environments -Noise and interruptions during the lessons
- Data getting finished during the lecture (Data cost burden).

18

Way Forward for ODeL

- Government is supportive
- NCHE is steadfast and will demand for ODeL
- Learning curves (Naseem's perspectives)
  - Needs assessment
  - strategic initiatives being harnessed
  - Development of the HR
  - Facilities and infrastructure
  - Investments
  - Attitude/Ethics

19

Minimum Standards for ODeL

- To guide, monitor and regulate full ODeL adoption and Implementation, Minimum Standards for ODeL have been instituted
- Institutions should adopt and adapt the ODeL Minimum Standards
- ODeL Minimum Standards can be accessed on the NCHE Website (www.unche.or.ugODeL Minimum Standards can be accessed on the NCHE Website (www.unche.or.ug) or on request through info@unche.or.ug

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Concluding remarks

- All institutions of higher learning are reminded to adhere to set minimum standards for ODeL
- There is need for concerted efforts of the different stakeholders in higher education (Institutions, students, parents, industry, development partners and government) to continuously innovate and invest in ODeL infrastructure and facilities for quality learning.

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THANK YOU FOR LISTENING

22

DAY TWO: 15th SEPTEMBER 2022

KEYNOTE PRESENTATION

Content Development and Research networking to enhance ODeL for Higher Education in Africa

Acknowledgements

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The University of South Africa (Unisa)

- The oldest distance education institution – established in **1873**
- Correspondence distance education in **1946**
- Comprehensive education – from post-school certificates to doctorial qualifications, but also ranging from vocational, professional and academic qualifications
- Close to **400,000** students

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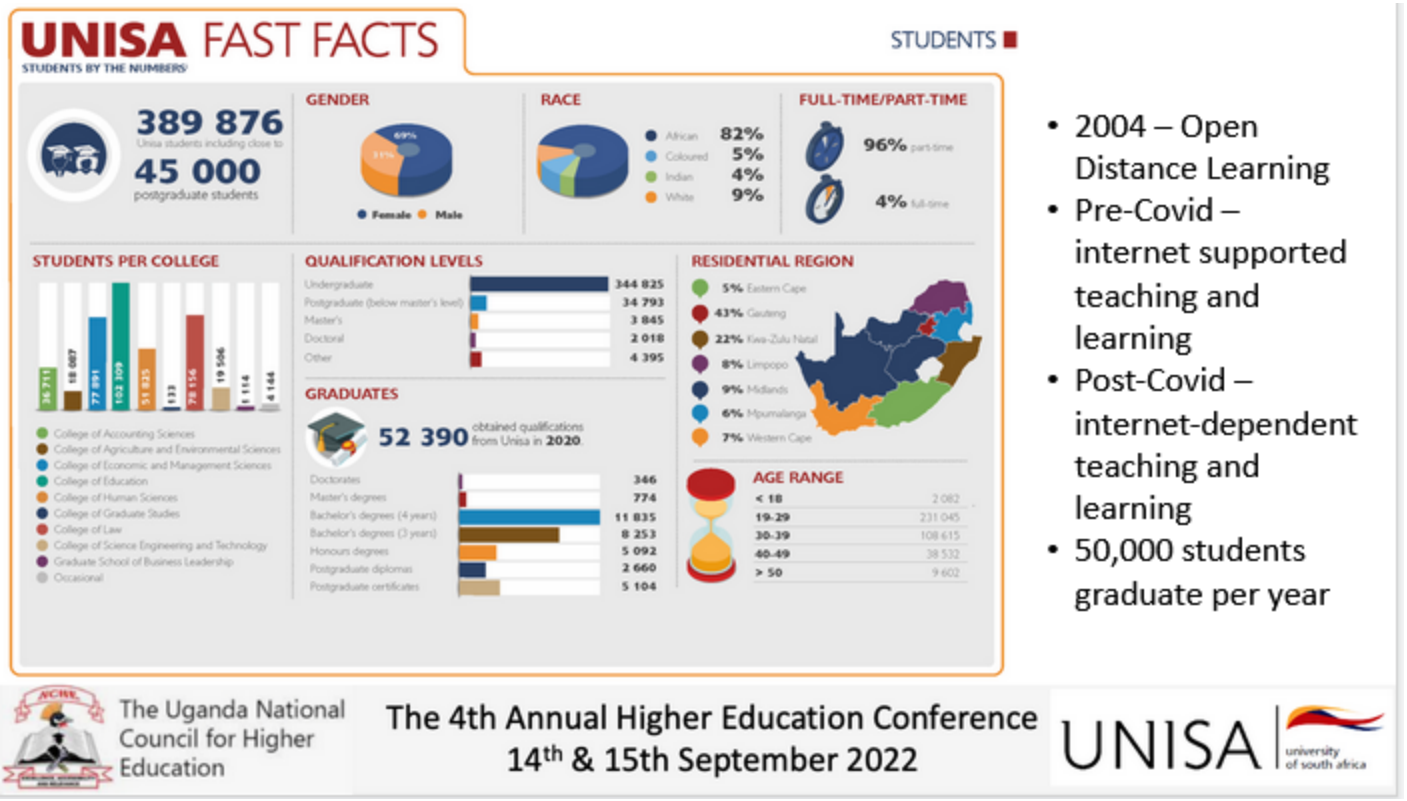

- 2004 – Open Distance Learning
- Pre-Covid – internet supported teaching and learning
- Post-Covid – internet-dependent teaching and learning
- 50,000 students graduate per year

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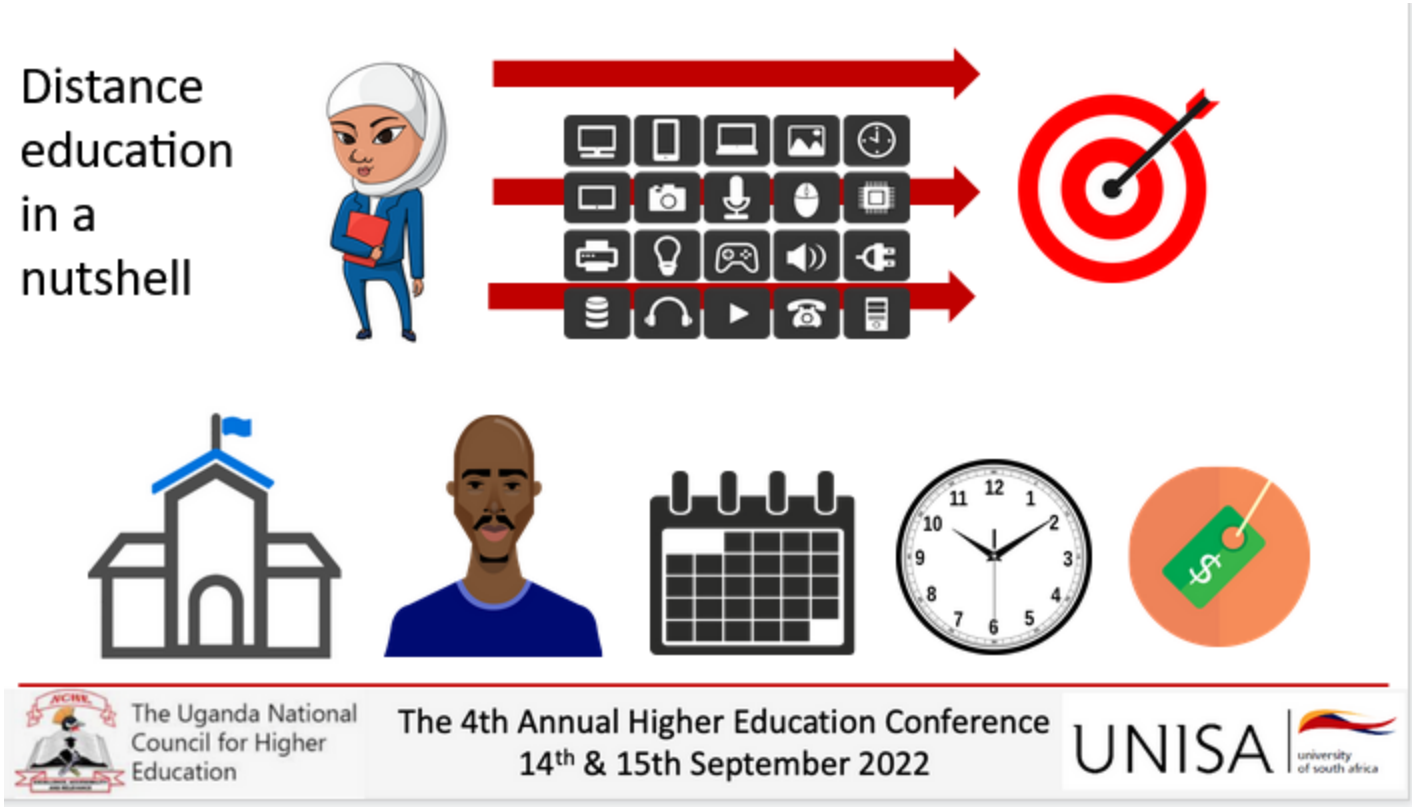
Distance education in a nutshell
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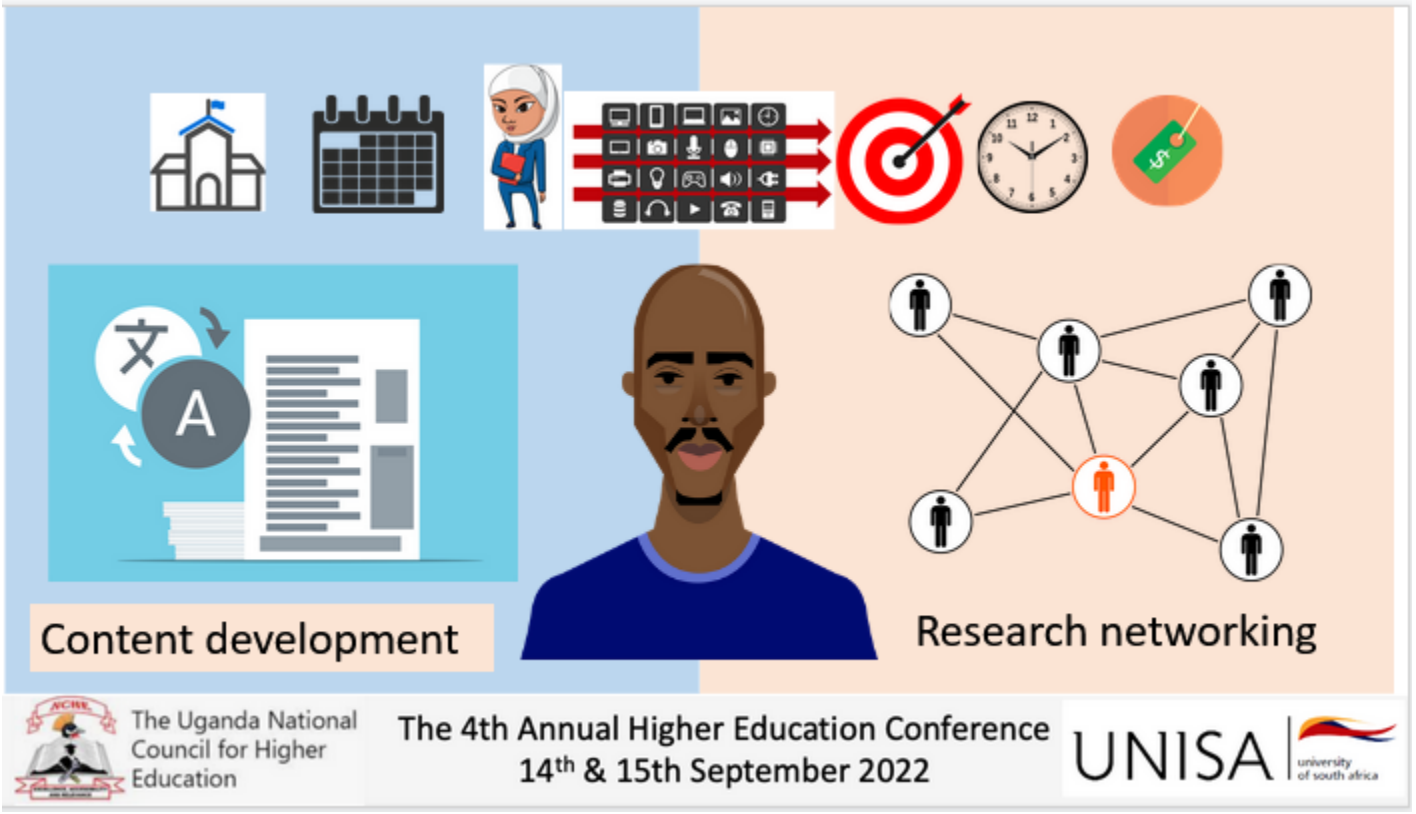
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Research networking
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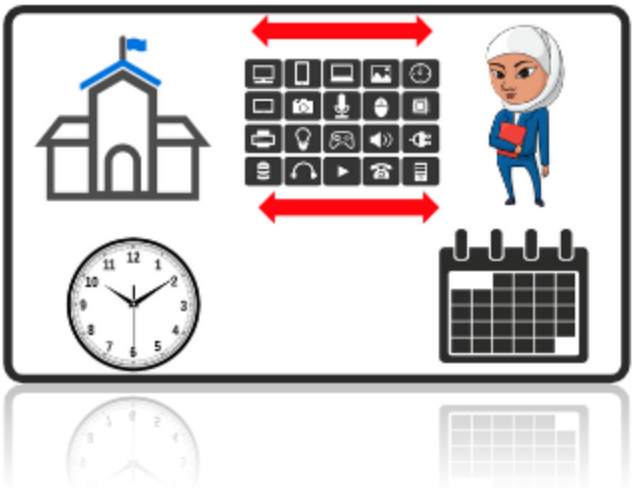
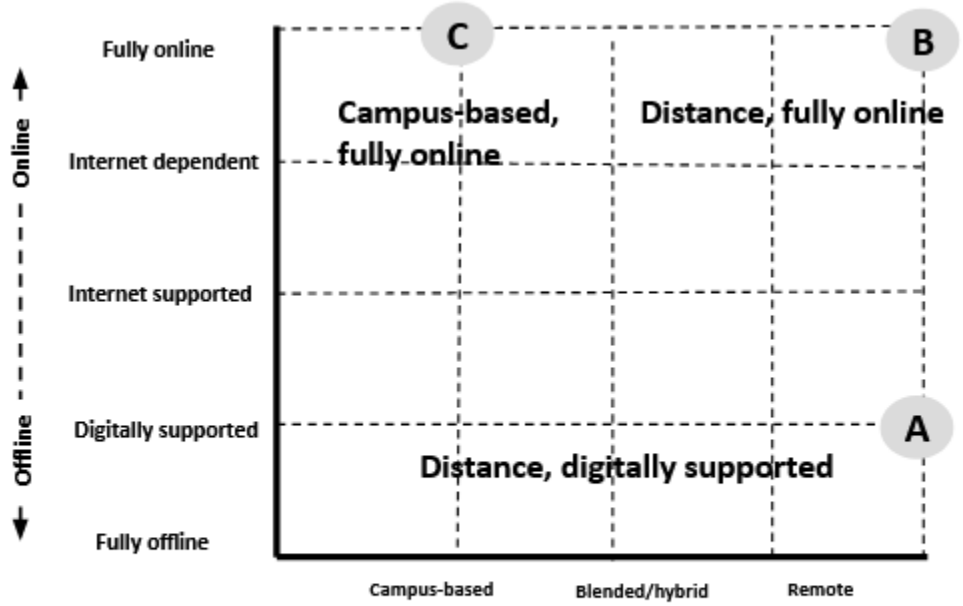
The strange family of Distance Education…



- **Dedicated** distance education institutions
- **Open distance learning** institutions
- Traditional higher education institutions **with distance education departments** or schools
- Traditional higher education institutions offering some courses and/or programs **only** online
- Different combinations such as blended, hybrid and recently Emergency Remote Teaching and Learning



Source credit: South African Government (2014). Higher Education Act: Policy for provision of distance education in South African universities in the context of an integrated post-school system. Retrieved from

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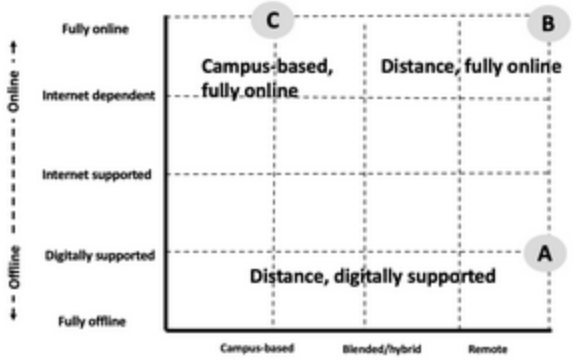
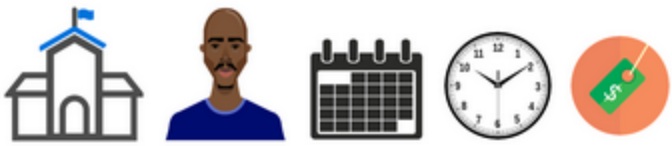
Considering content development and research networking must account for the **different possibilities** and **forms of facilitation of learning** – **there is no one size fits all**





Distance education ***is much more*** than just content development…

Research networking and **scholarship** in distance education are closely linked to **faculty roles**

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Content development in distance education

1. It is *not* about content
2. A different type of content
3. Developing content
4. Sharing content

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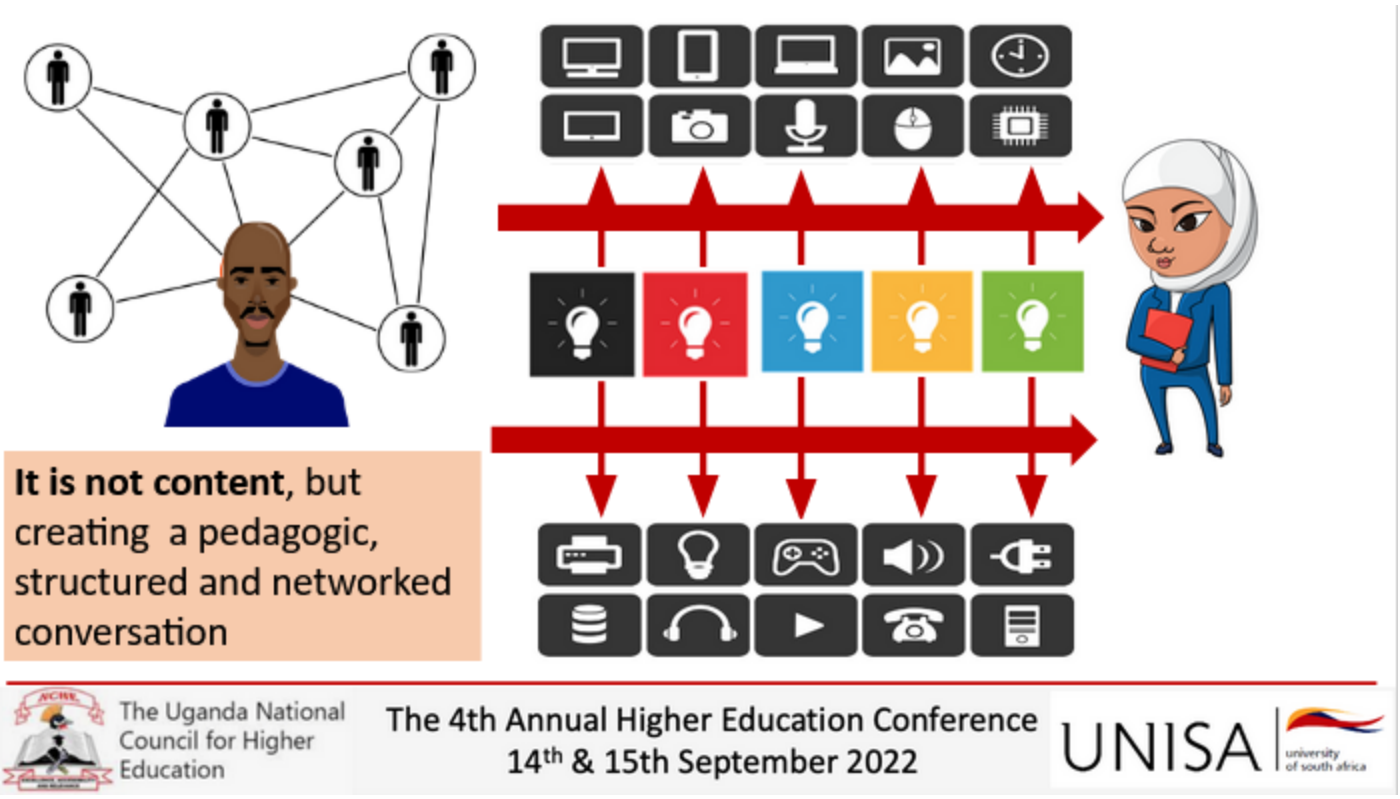
It is not content, but creating a pedagogic, structured and networked conversation
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In the past content was everything, now content is everywhere
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University knowledge in an age of supercomplexity

- Universities are no longer the only knowledge producers
- Increasing commercialisation/ privatisation of knowledge and education
- Knowledge and science are increasingly contested #fakenews #fakescience
- Growing sense of #supercomplexity

- Create revolutionary accounts of the world
- Critique new knowledge claims
- Create capacities for coping with paradox and supercomplexity – being versus knowing
- Critical knowledge in action

Barnett, R. (2000). University knowledge in an age of supercomplexity. *Higher education*, *40*(4), 409-422

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The impact of distance education as an industrialised form of educational delivery

1. Division of labour whereby delivery of teaching is divided into smaller units e.g., design, the development of learning materials, production and delivery to realise economies of scale
2. Use of technology
3. Integrated systematic planning
4. Standardisation
5. Centralisation

Picture credit:
https://tulip.co/blog/the-history-and-future-of-the-assembly-line/

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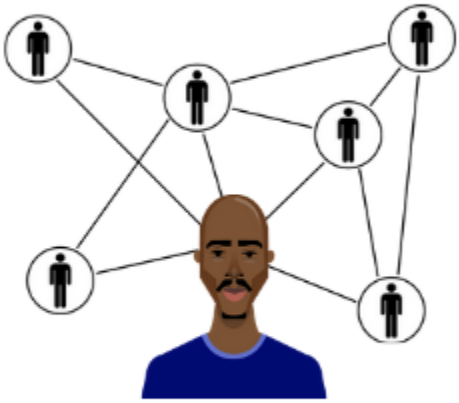
The impact of the digitalisation of higher education, content development and delivery



- Not content, but dialogue: so, what do you need?
- What is already out there, usable and under what conditions?
- Working with what is already out there, what do you need to add, how will you combine these sources in a pedagogic dialogue?
- The content you will develop, how will it be made available, under what conditions?

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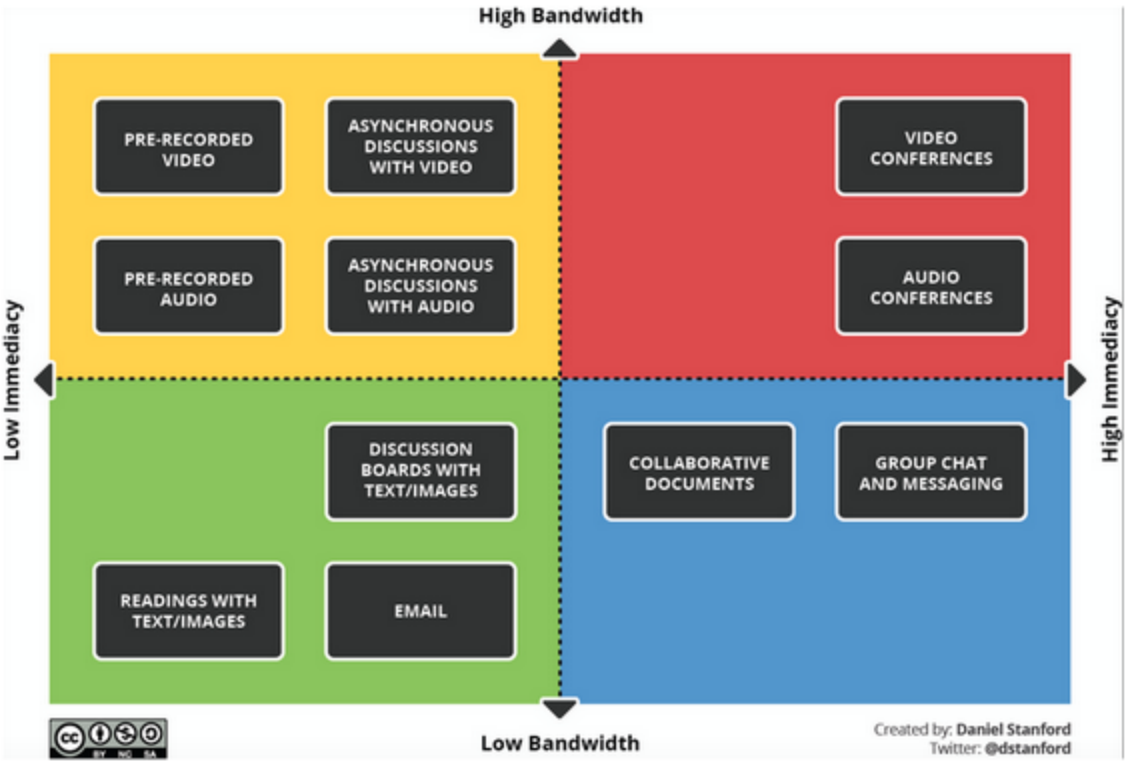
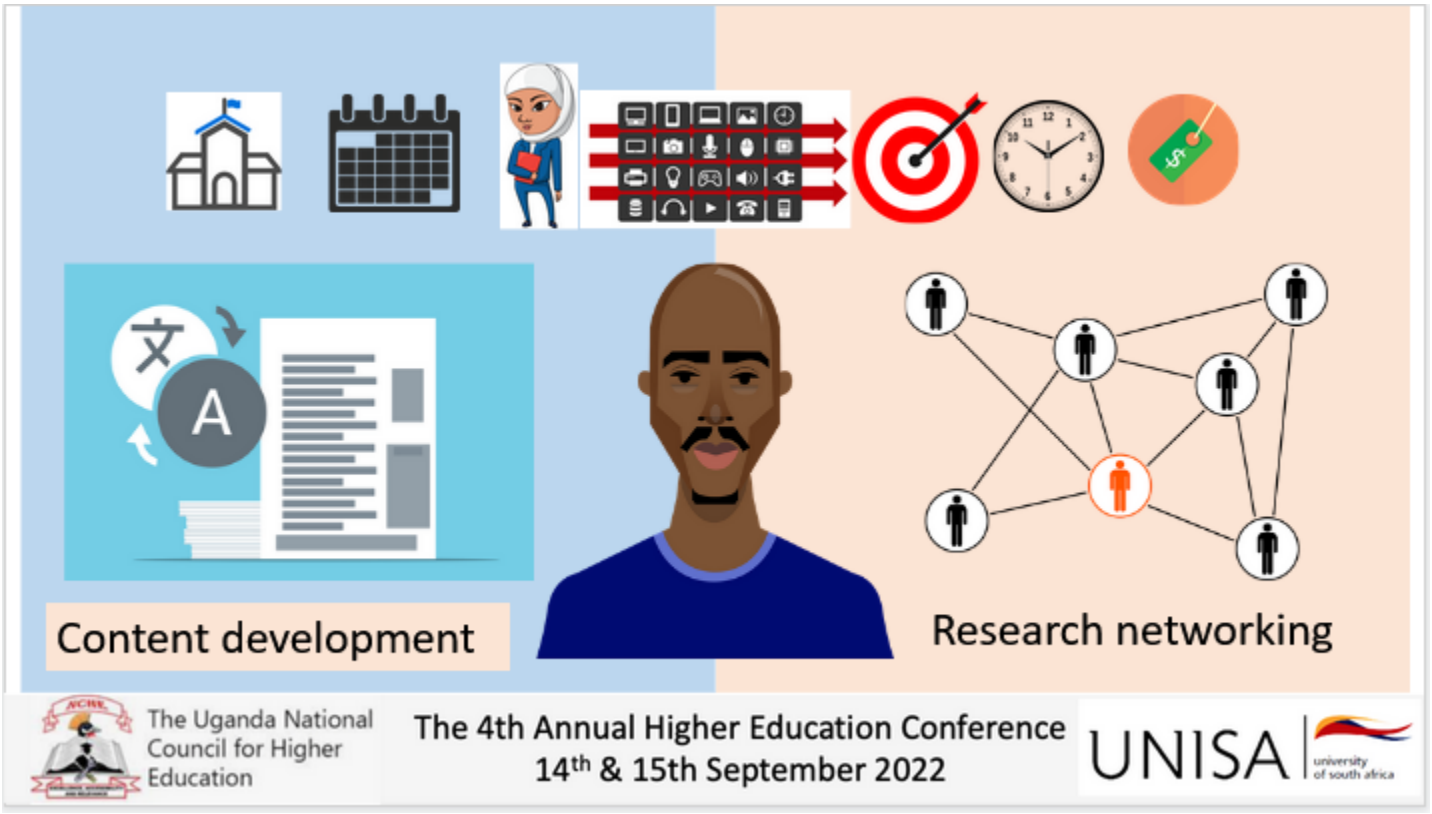

High Bandwidth
PRE-RECORDED VIDEO
ASYNCHRONOUS DISCUSSIONS WITH VIDEO
VIDEO CONFERENCES
PRE-RECORDED AUDIO
ASYNCHRONOUS DISCUSSIONS WITH AUDIO
AUDIO CONFERENCES
Low Immediacy
High Immediacy
DISCUSSION BOARDS WITH TEXT/IMAGES
COLLABORATIVE DOCUMENTS
GROUP CHAT AND MESSAGING
READINGS WITH TEXT/IMAGES
EMAIL
Low Bandwidth
Created by: Daniel Stanford
Twitter: @dstanford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Research networking
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• Why do you want to publish?
• What will happen if you don't publish?
• What are some of the challenges faced by African scholars?
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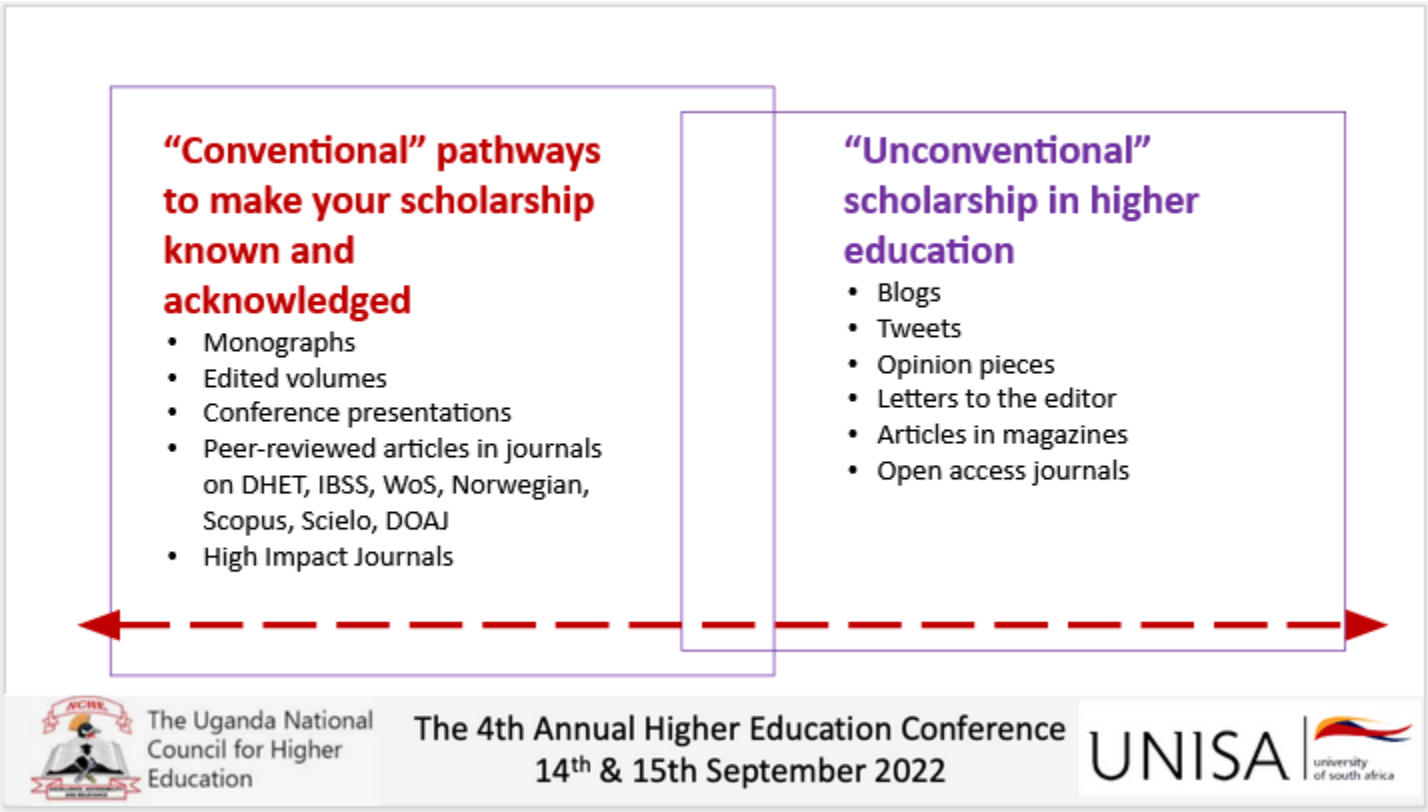
"Conventional" pathways to make your scholarship known and acknowledged
• Monographs
• Edited volumes
• Conference presentations
• Peer-reviewed articles in journals on DHET, IBSS, WoS, Norwegian, Scopus, Scielo, DOAJ
• High Impact Journals
"Unconventional" scholarship in higher education
• Blogs
• Tweets
• Opinion pieces
• Letters to the editor
• Articles in magazines
• Open access journals
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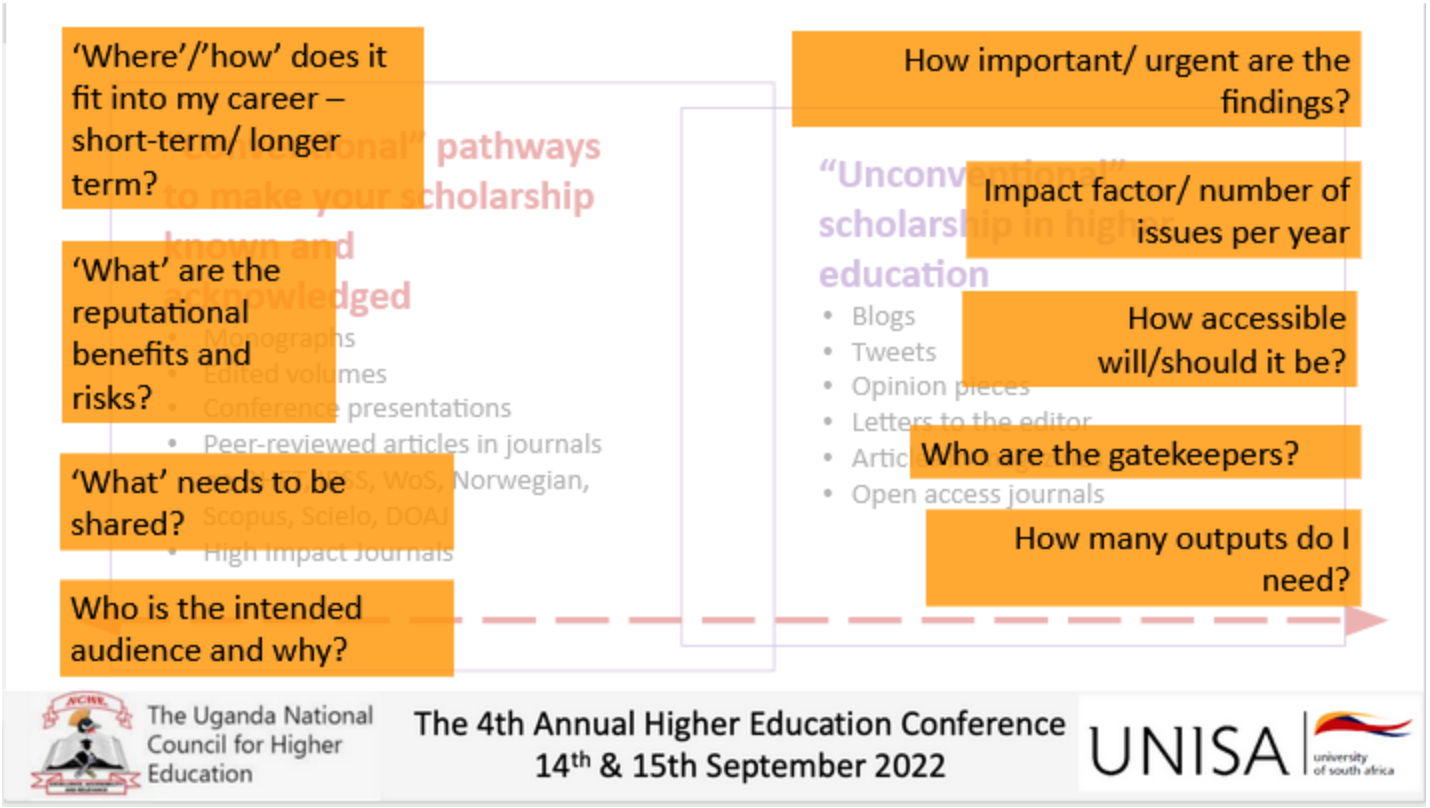
'Where'/'how' does it fit into my career – short-term/ longer term?
'What' are the reputational benefits and risks?
'What' needs to be shared?
Who is the intended audience and why?
How important/ urgent are the findings?
Impact factor/ number of issues per year
How accessible will/should it be?
Who are the gatekeepers?
How many outputs do I need?
"Conventional" pathways to make your scholarship known and acknowledged
Monographs
Edited volumes
Conference presentations
Peer-reviewed articles in journals
High impact Journals
"Unconventional" scholarship in higher education
Blogs
Tweets
Opinion pieces
Letters to the editor
Open access journals
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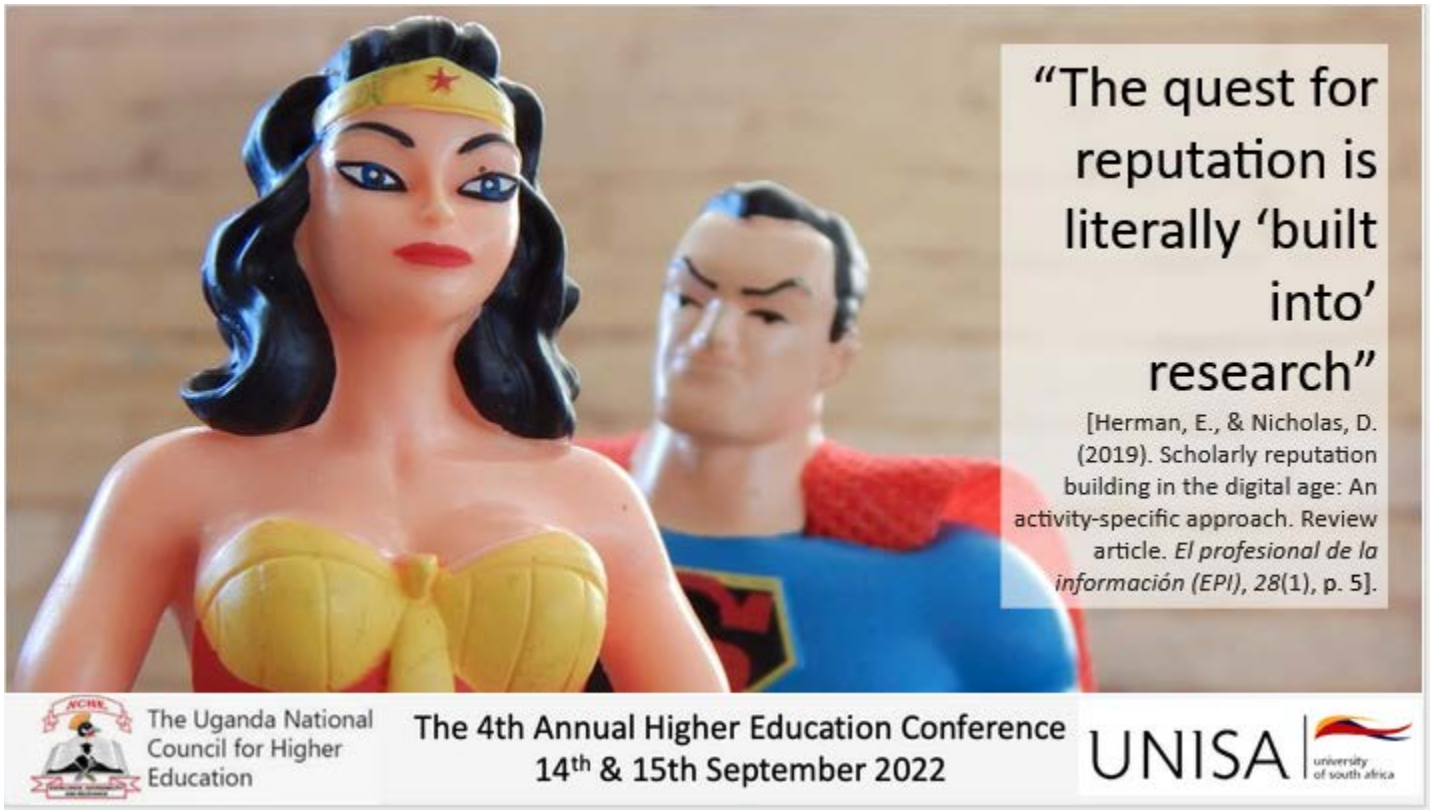
"The quest for reputation is literally 'built into' research"
[Herman, E., & Nicholas, D. (2019). Scholarly reputation building in the digital age: An activity-specific approach. Review article. *El profesional de la información (EPI)*, *28*(1), p. 5].
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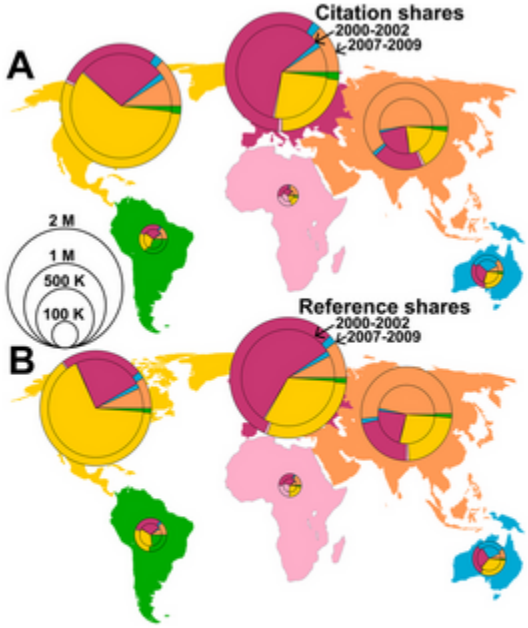
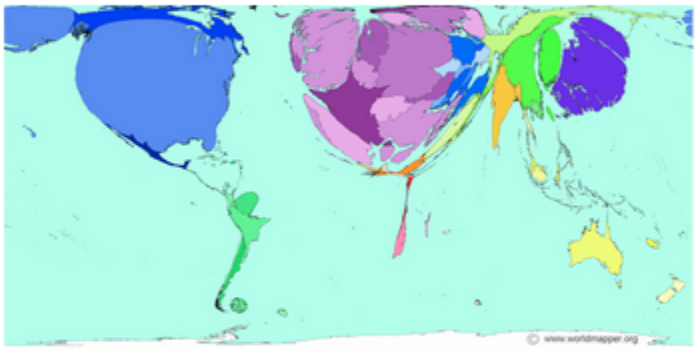
"a very elaborate prestige economy" (Herman & Nicholas, 2019, p. 2)

Image credit:
http://thesociologicalcinema.tumblr.com/post/142551385075/youre-playing-monopoly-one-player-is-given-al



Source credit:
https://www.researchgate.net/figure/World-map-of-knowledge-production-and-consumption-in-major-geographic-areas-of-the_fig2_233399075

Inequitable power dynamics of global knowledge production and exchange must be confronted head on



By Laura Czerniewic 29 April, 2013

Source credit:
https://blogs.lse.ac.uk/impactofsocialsciences/2013/04/29/redrawing-the-map-from-access-to-participation/

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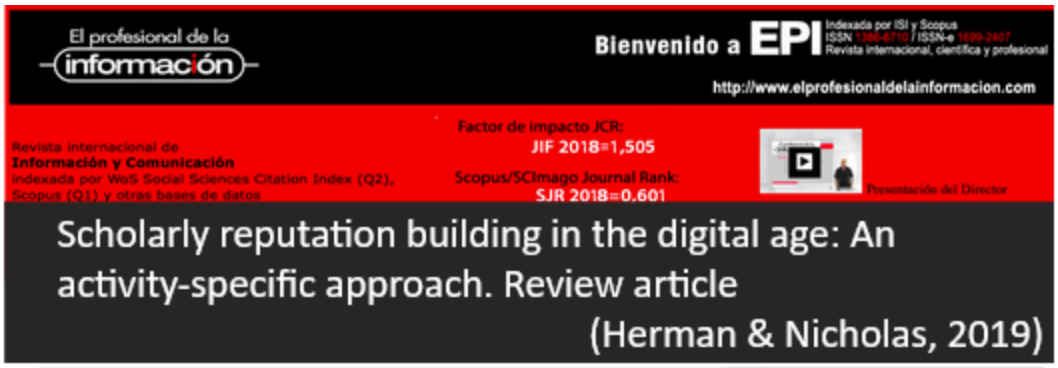

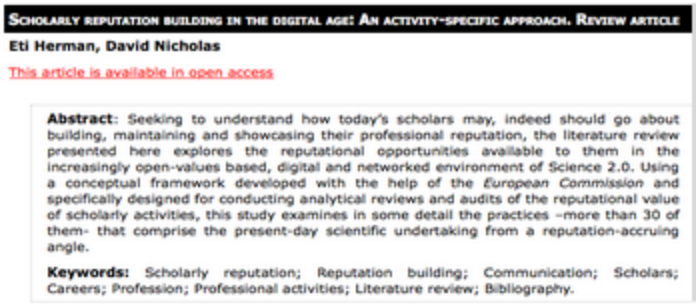

SCHOLARLY REPUTATION BUILDING IN THE DIGITAL AGE: AN ACTIVITY-SPECIFIC APPROACH. REVIEW ARTICLE

Eti Herman, David Nicholas

This article is available in open access

Abstract: Seeking to understand how today's scholars may, indeed should go about building, maintaining and showcasing their professional reputation, the literature review presented here explores the reputational opportunities available to them in the increasingly open-values based, digital and networked environment of Science 2.0. Using a conceptual framework developed with the help of the *European Commission* and specifically designed for conducting analytical reviews and audits of the reputational value of scholarly activities, this study examines in some detail the practices –more than 30 of them- that comprise the present-day scientific undertaking from a reputation-accruing angle.

Keywords: Scholarly reputation; Reputation building; Communication; Scholars; Careers; Profession; Professional activities; Literature review; Bibliography.

Herman, E., & Nicholas, D. (2019). Scholarly reputation building in the digital age: An activity-specific approach. Review article. *El profesional de la información (EPI)*, *28*(1). Retrieved from http://www.elprofesionaldelainformacion.com/contenidos/2019/ene/02.html

Researchers' online visibility: tensions of visibility, trust and reputation

Sara Kjellberg, Jutta Haider

Online Information Review
ISSN: 1468-4527
Publication date: 10 June 2019

Kjellberg, S., & Haider, J. (2019). Researchers' online visibility: Tensions of visibility, trust and reputation. *Online information review*, *43*(3), 426-439.

The researcher as *entrepreneurial* self "where the academic researcher is seen to brand and offer herself/himself on an academic market, where she/he competes for rewards in the form of visibility, attention and resources"

(Kjellberg & Haider, 2019, pp. 426-427)

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Goodier, S., & Czerniewicz, L. (2015). Academics' online presence: a four-step guide to taking control of your visibility. [Third edition]

Retrieved from http://open.uct.ac.za/bitstream/handle/11427/2652/GoodierOnlinePresenceV3.pdf?sequence=11

Managing for Serendipity
or why we should lay off "best practice" in KM

David J Snowden

Cynefin Centre for Organisational Complexity
IBM Global Services

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snowded@uk.ibm.com

2003

"Too many people focus on managing knowledge rather than managing the channels through which the knowledge flows. *Just connecting or linking people* can be a major knowledge management activity" (emphasis added)

Source credit: http://www.academia.edu/522188/Managing_for_serendipity

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"First, approach the right people (they call this "access"). Second, get the right people to approach you (attraction). Finally, use these relationships to do things better and faster (achievement)"

Source credit: http://www.economist.com/node/16638391

"Serendipity can be conceptualized via three aspects: it requires *preparedness, openness* to new directions and opportunities, and a *willingness to question and challenge* existing ways of thinking that will pave the way to innovation" (p. 5; emphasis added)

Source credit: http://www.tandfonline.com/doi/abs/10.1080/14241277.2017.1308947

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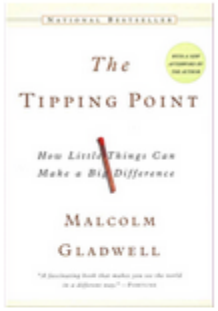

Connect to "mavens" – a Yiddish word for someone who accumulates knowledge (Gladwell, 2000, p. 60).

Mavens are "information brokers, sharing and trading in what they know" and "data banks. They provide the message.

Connectors are social glue: they spread it" (Gladwell, 2000p. 70).

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Some considerations

1. Choose your platforms
2. Create a consistent profile – image, central message – who are you as scholar
3. Connect the dots
4. Clean up the profiles you already have
5. Keep your sites updated
6. What do you want people to find about you?
7. Dedicate time – work the field

Where do you build what type of brand* as scholar?

LinkedIn
ResearchGate
Academia.edu
share research
slideshare
Present Yourself

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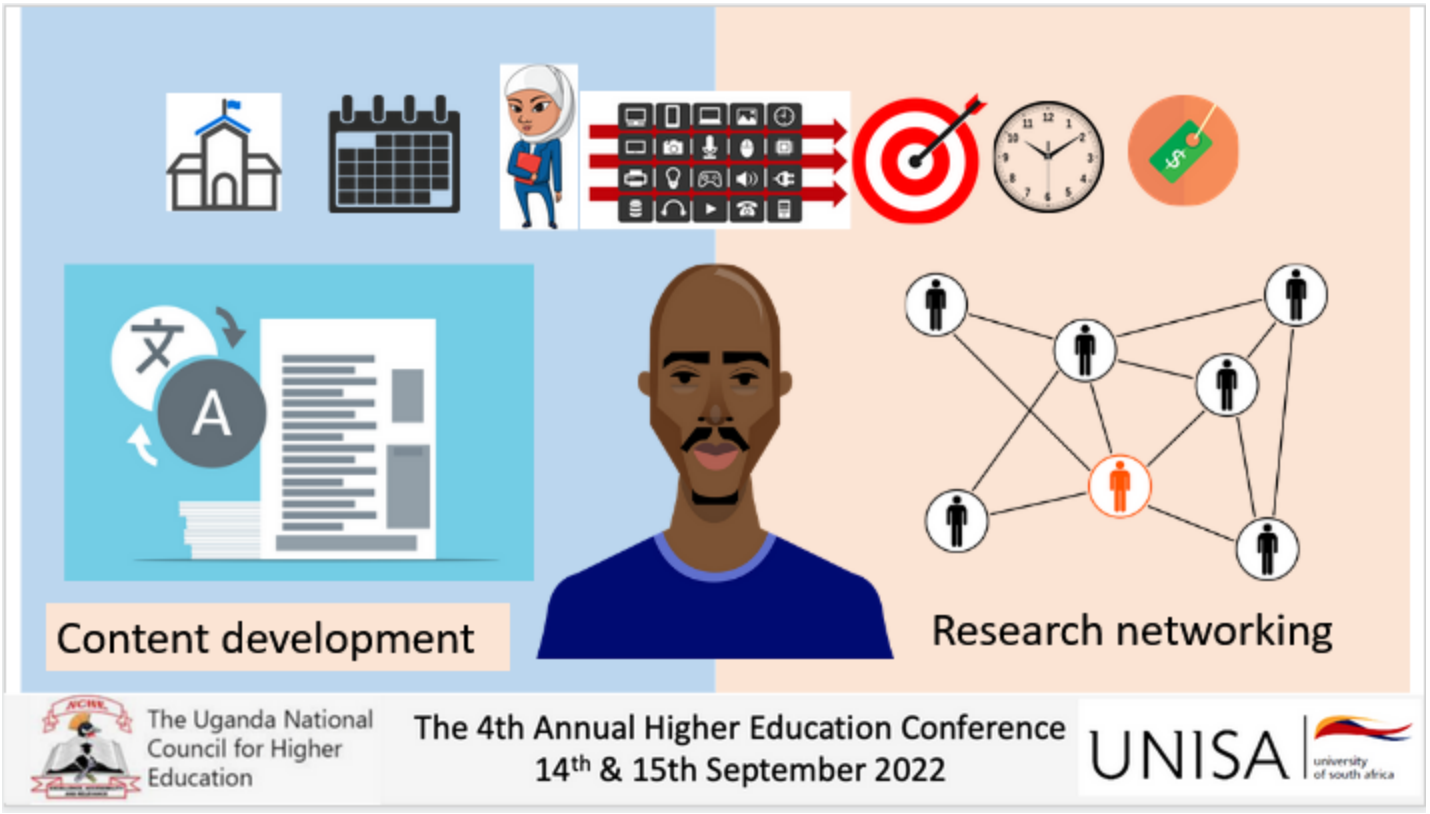
Content development
Research networking
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Pointer 1
Content development is much more than content and should facilitate pedagogic dialogue using a range of sources and technologies
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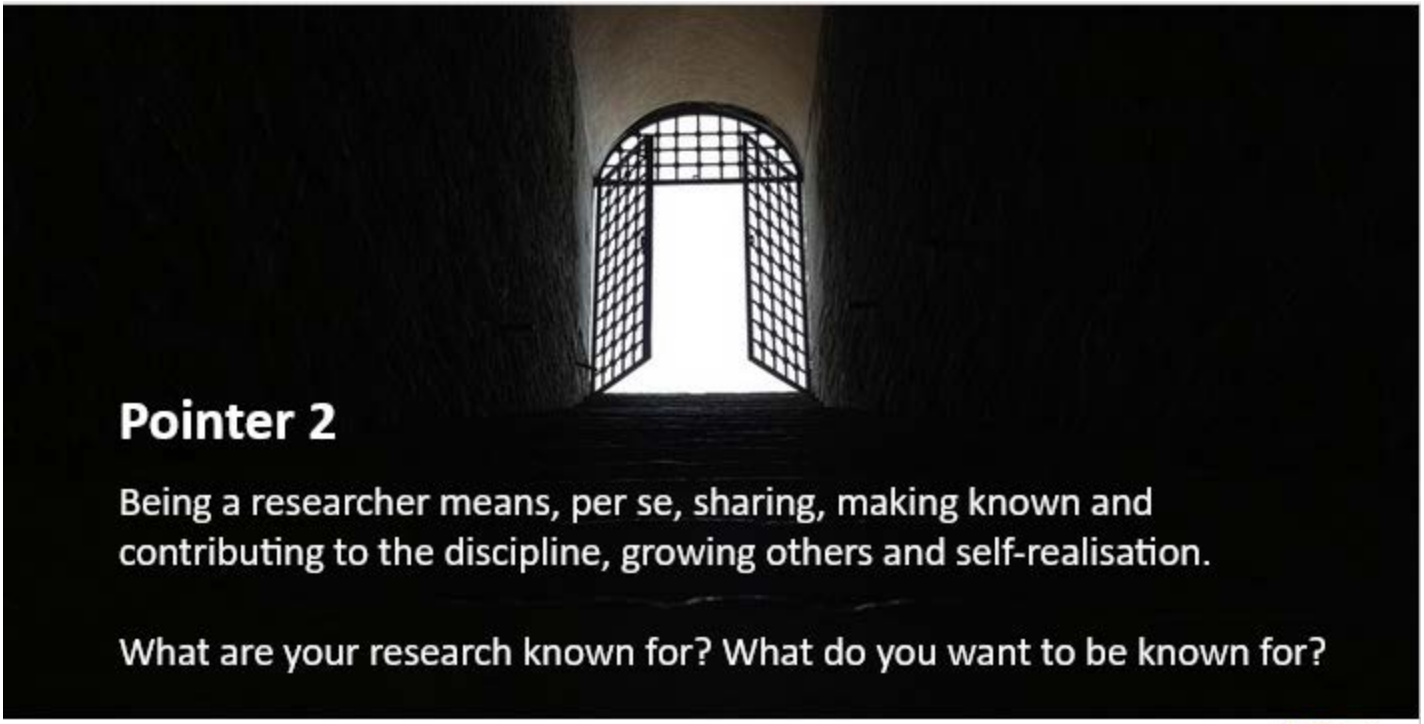

THANK YOU

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SESSION TWO: CONTENT DEVELOPMENT AND PEDAGOGICAL SKILLS UNDER THE NEW NORM

Presentation: ODeL Content development and pedagogical delivery skills

ODeL Content development and pedagogical delivery skills

The 4th Annual Higher Education Conference

Assoc. Prof. Paul Birevu Muyinda, PhD
Director, Institute of Open, Distance and e-Learning, Mak
Member, DATC, MoES

14th -15th September 2022

What I missed yesterday

- ❑ I attended the entire day online
- ❑ I missed lunch served at around 3pm
- ❑ I missed the break teas/coffees
- ❑ I missed getting feedback to my questions because the moderators focused more in the physical venue
- ❑ I missed to get my friend with extra abilities attended to because there was no UDL in the conference
- ❑ I missed to interact with my friends
- ❑ I missed to the ambiance

Agenda

- Understanding ODeL
- E-content development for ODeL
- Instructional design for ODeL
- Key considerations for e-content development 4 ODeL
- ODeL e-content development @ Mak
- Recommendations

What is ODeL? (1)

- It is not a computer system

What is ODeL? (2)

- An umbrella acronym representing teaching and learning approaches that employ a variety of technologies to meet learning needs of varied learners (electronic and non-electronic)

What is ODeL? (3)

- Teaching and learning modalities which may take on any of these or a blend of
  - Open Education/Learning
  - Distance Education/Learning
  - Electronic Learning (e-Learning)
  - Online Education/Learning
  - Mobile Learning (m-Learning)
  - Flipped Classroom
  - Blended Education/Learning

Role of the teacher

- Facilitator
- Learning designer
- The greatest pre-occupation of the teacher today is in designer of learning activities (learning dialogue) than in writing content (notes)
- At this stage in our lives I don't imagine going for a masters class or PhD class and the lecturer dictates notes or gives me handouts.

E-Content Development for ODeL

- It is not about writing digital lecture notes
- It is about cultivating learning through ODeL
- It is about designing engaging, interactive and enjoyable online/blended learning experiences for attainment of intended learning learnings
- Calls for different instructional design skills

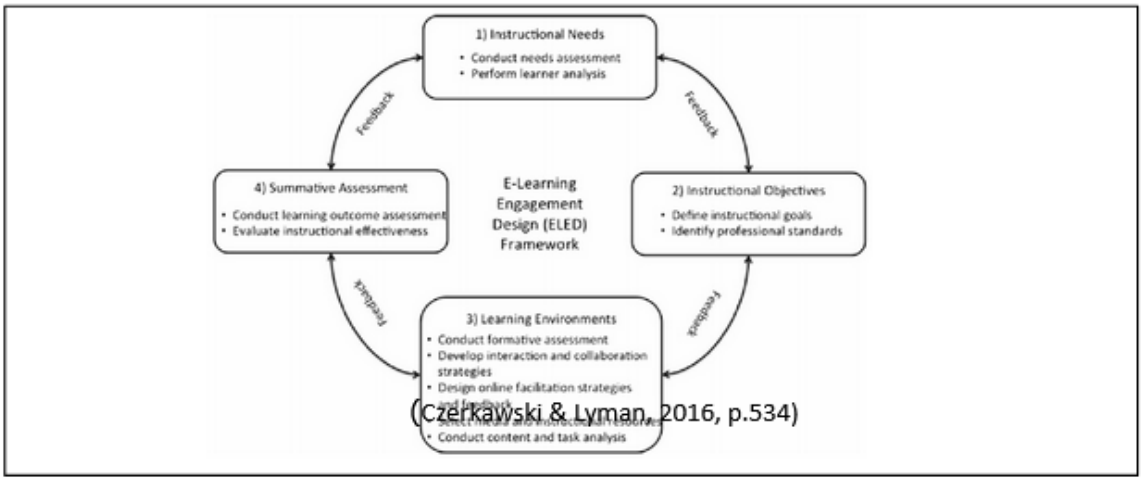
Instructional design for ODeL

- Classroom instructional design practices are not feasible in ODeL
  - The instructor is physically present in the classroom
  - Learners engage and interact with each other and the instructor in-person
  - Study resources are physically present (the touch issue)
- Instructional design models feasible for ODeL are needed because technology mediates teaching and learning, yet, technology is not a 'person'

ODeL instruction design models

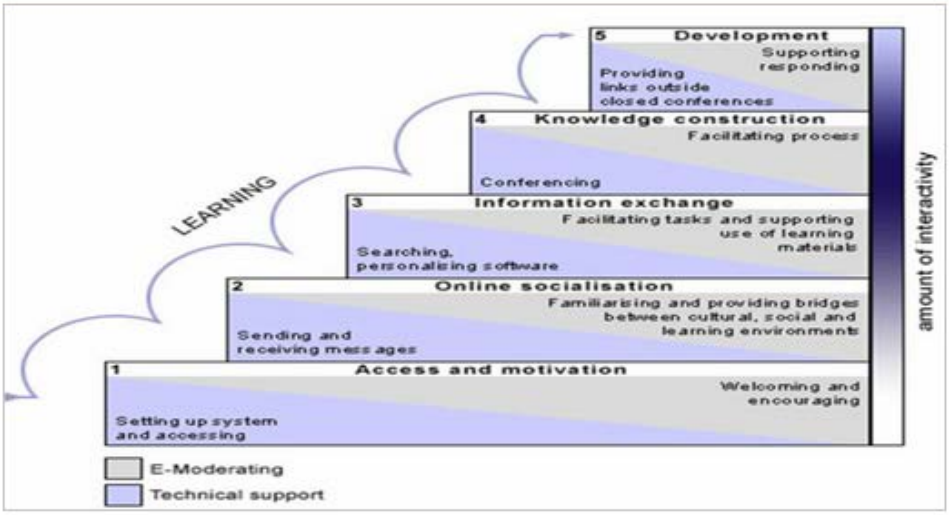
- E-Learning for Engagement Design Model (ELED) has come in handy (Czerkawski & Lyman, 2016)
- Gilly Salmon Five Stage Model (Gregory & Salmon, 2013)

ELED framework



(Czerkawski & Lyman, 2016, p.534)

Gilly Salmon Five Stage Model



Key consideration in e-content ODeL development

- Ensure
  - ✓ Increased teaching, cognitive and social presence (Garrison, Anderson, Archer, 2015)
  - ✓ Reduced transactional distance (Moore, 1993)

Increased teaching, cognitive and social presence

- Teaching
  - ✓ Availability of the teacher in the content/course
- Cognitive
  - ✓ Activities for engaging knowledge construction
  - ✓ Activities for building skills
- Social
  - ✓ Participant being able to project themselves socially and emotionally as 'real' people

Transactional Distance

- The perceived psychological distance between the learner and the teacher, the learner and fellow learner, the learner and the study materials, the learner and the technology (Moore, 1993)
- The less the transactional distance the more the learning experience hence acceptance of ODeL
- **The greater the transactional distance the higher the rejection for any ODeL practices**

ODeL content development @Mak

- Makerere University online course development framework
  - MDT7205: Instructional Design for Technology-Mediated Learning
  - Mastercard Foundation eLearning Initiative at Makerere University (MCF eLIP@Mak)

Recommendations

- Higher education institutions should establish positions of instructional designers
- Capacity building of faculty in ODeL instructional design and pedagogy is essential
- Infrastructural constraints need to be addressed
- Come for our Masters of Instructional Design and technology (a blended learning programme at Mak)

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ICT Skills Development for both Learners & Teachers

Prof Jessica Norah Aguti
Busitema University
jnaguti@gmail.com

Structure

- Introduction
- ICT potential to promote learning & employability
- National Response
- Developing ICT skills for learners
- Developing ICT skills for teachers
- Challenges
- Lessons & Way Forward

Introduction

- SDG4: Ensure inclusive and equitable quality education and promote lifelong learning opportunitiesfor all
- Target 4.4: By 2030, substantially increase the number of youth and adults **who have relevant skills, including** technical and vocational skills, **for employment, decent jobsand entrepreneurship**

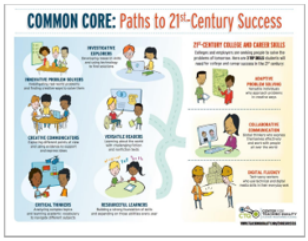
  - Indicator 4.4.1 is the Proportion of youth and **adults with information and communications technology (ICT) skills, by type of skill**

Introduction…

- NDP III Objective 4: Increase the **ICT human resource capital**
- MoES Strategic Plan Intervention '**Optimize ICTs** in the delivery of education services, research, monitoring, evaluation, and communication of impact of interventions
- New skills and competences needed
  - Learning and innovative skills
  - **Information media and technology skills**
  - Life and career skills

ICT potential to promote learning & employability

- Increasing access to education especially in blended learning/ODeL environments
- Mediate learning
  - Development & access to learning materials
  - Provide opportunity for individual/group interaction
- Improve teaching and learning
  - Access to quality learning materials
  - Increased interactivity
  - Diverse methods of teaching
  - Acquisition of higher order learning outcomes

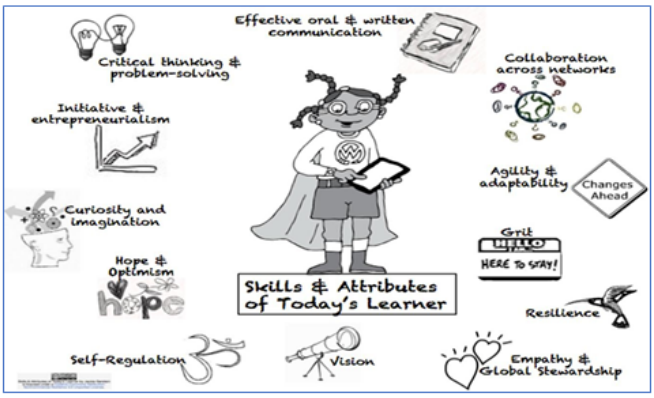


- Improve school & classroom management and administration https://bit.ly/3yZR03l
- ICTs skills are a prerequisite to effectively operationalize ODeL
- ICT skills now a basic requirement for employability

National Response

- Policy environment greatly improved
- Uganda Communications Commission & MoES doing a lot to integrate ICTs
  - ✓ICT laboratories
  - ✓Internet connectivity in schools
  - ✓Retooling of ICT teachers
- Increased ICT penetration & access to internet nationwide
- ICT as a subject at O & A levels
- New Lower Secondary School curriculum places ICTs at the Centre
- More teachers trained to teach ICTs
- NCHE has guidelines for ODeL & supported institutions to ensure quality ODeL programmes
- A number of projects promoting ICTs in schools & tertiary institutions

Developing ICT skills for learners



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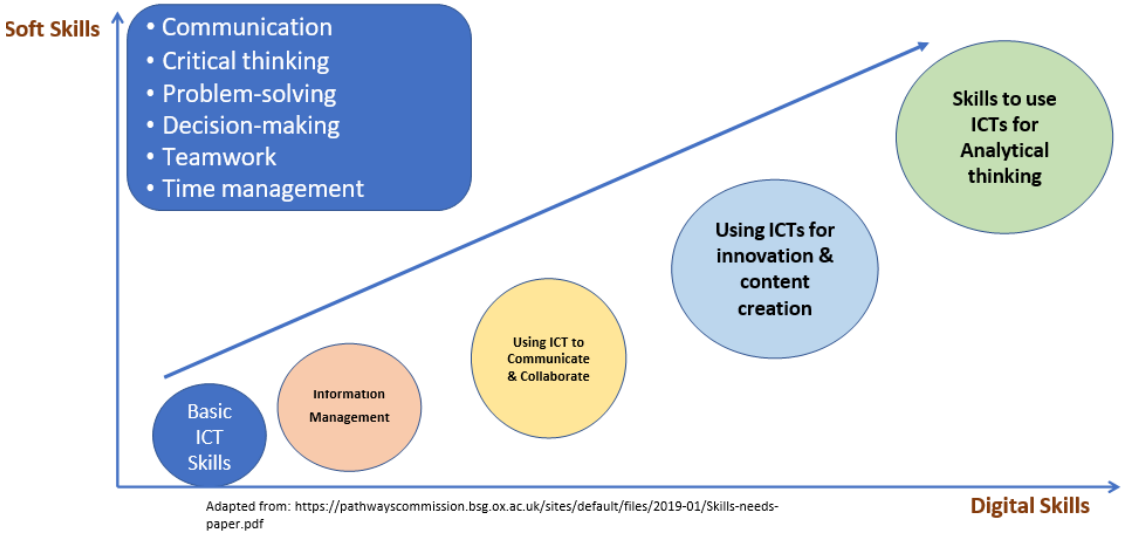
Retrieved 5th Sept 2014

Why develop ICT Skills for learners?



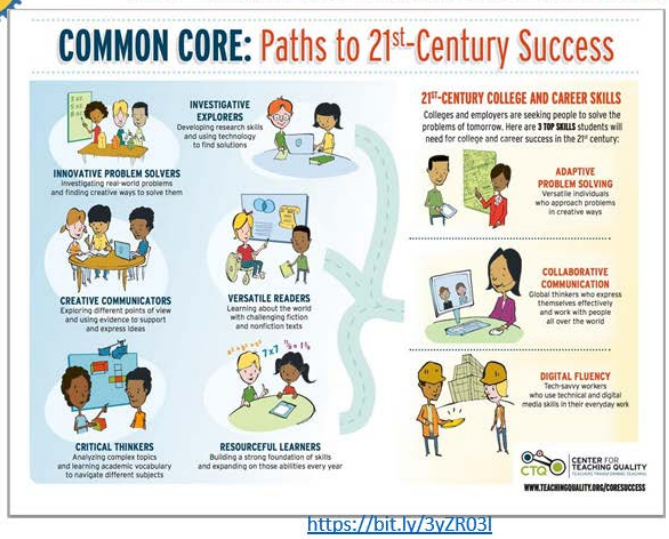
Adapted from: https://pathwayscommission.bsg.ox.ac.uk/sites/default/files/2019-01/Skills-needs-paper.pdf

ICT Skills for higher order learning skills

https://www.blendspace.com/lessons/UQY0YsD5vCbtHg/bloom-s-revised-taxonomy-goes-digital

- Considering background of learners, technologies is one way to enhance study skills
- Ability to work effectively with certain technologies will enhance acquisition of a variety of learning outcomes
- There is a symbiotic relationship between being able to work with the technology and the learning skills

ICT Skills for readiness to learn & employability



Immersing learners in working with ICTs in teaching & learning is closely related to level of readiness for College/University and employability

https://bit.ly/3yZR03I

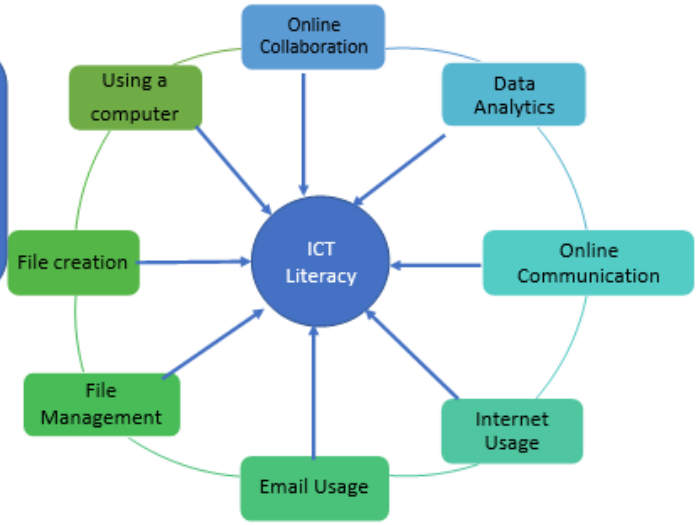
How to reinforce ICT skills in teaching & learning

Using technologies:

- Promotes learner centered teaching & learning - take charge of their learning
- Provides opportunity to create Inquiry-Based learning
- Creates opportunities for collaborative learning (LMS, Social media, other platforms)
- Creates opportunities for students to solve problems & critique content – authentic learning (LMS, Social media, other platforms)
- Set tasks that promote creativity - apply knowledge in new ways
- Assess a variety of learning outcomes

What ICT skills do learners need for study and gainful employment?

- ✓ Technical
- ✓ Information management
- ✓ Communication
- ✓ Collaboration
- ✓ Creativity
- ✓ Critical thinking
- ✓ Problem-solving



How are learners being equipped & supported?

- ICT being taught as a subject in schools
- Universities have ICT as a cross cutting subject
- ICT Labs for student use
- Series of sensitization and training sessions particularly on working with the LMS
- Social media has enhanced some ICT skills - especially collaboration & social networking
- Self-learning

- **Are learners ready to fully exploit benefits that ICTs bring on board in teaching & learning?**

Practice does not make perfect. Only perfect practice makes perfect

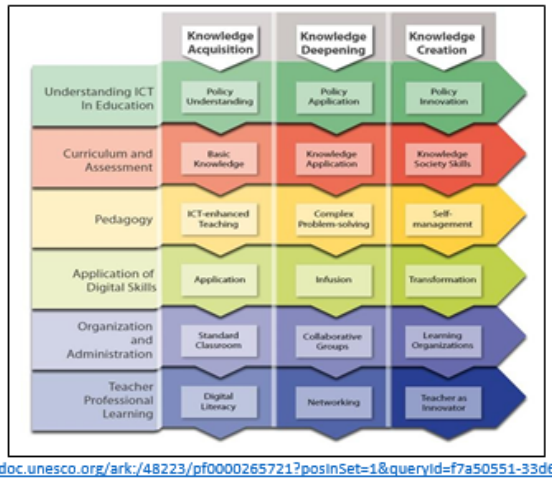
Anton Chekhov
Russian playwright
29/1/ 1860, - 15/7/1904

Developing ICT skills for teachers

Teachers must be adept with technologies

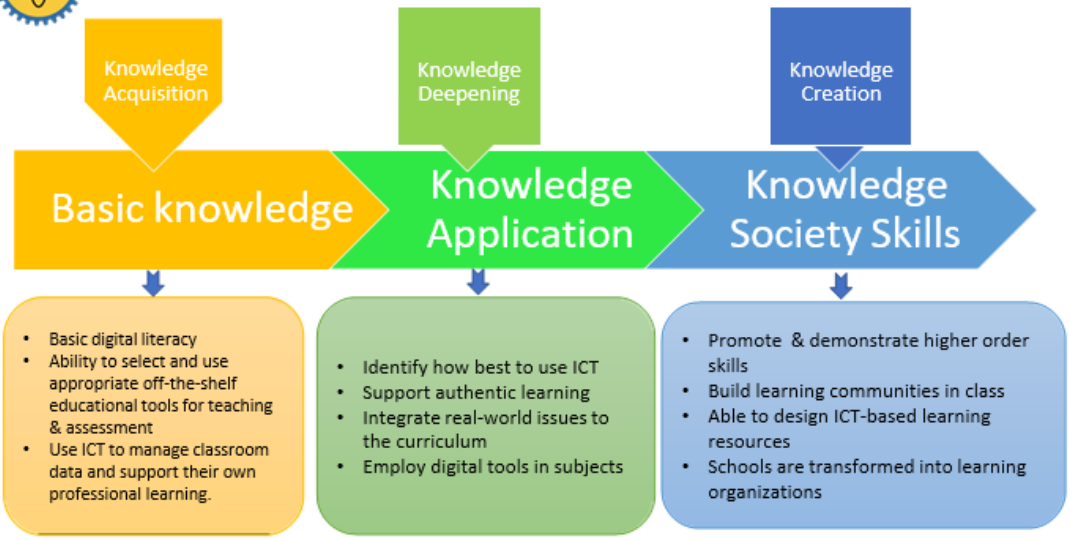
You cannot give what you do not have

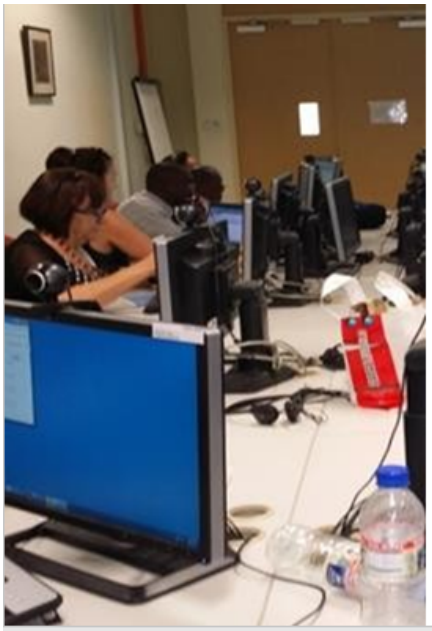
The UNESCO ICT Competency Framework for Teachers



https://unesdoc.unesco.org/ark:/48223/pf0000265721?posInSet=1&queryId=f7a50551-33d6-4ffd-af0f-5de153ea244a

What should teachers do at each level?





How can teachers be helped to acquire ICT skills?

- Teacher development should be seen as a lifelong process
- Every teacher should take responsibility & interest in self development
- Pre-service teacher training should include training in basic ICT skills as well
- Training in designing quality learning materials
- Training in using different tools for assessment – train for both students & staff in how each tool works and how to use the tools
- Funding research into ICT in teaching and learning
- Mount short courses that cover different aspects of ICT use

Challenges

- Poor attitude by students, teachers & employers
- Access to technology
- Relevant skills to utilize ICTs
- Access to Internet
- Cost of gadgets & cost of internet
- Time to design quality learning materials
- Right Institutional policies
- Poor national backbone for internet access

Lessons

- Need to go beyond theory – mainstreaming ICTs in teaching & learning ought to apply across the board
- Access to ICTs must be systematic & continuous
- Continue with PPP e.g. zero rates, higher purchase of gadgets; bulk purchases
- Sensitization & training of both students & teachers
- Readiness is still a challenge so both teachers & students need further support. **We only get better with practice**
- Budgeting for policies, systems, hardware, software, sensitization, training
- Collaborative development of training programmes & course materials
- Integrate motivation strategies for staff

Practice does not make perfect. Only perfect practice makes perfect

Anton Chekhov

Food for thought

"Computers are incredibly fast, accurate, and stupid. Human beings are incredibly slow, inaccurate, and brilliant. Together they are powerful beyond imagination."

Albert Einstein

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3. UNESCO. (2018). UNESCO ICT competency framework for teachers' version 3. United Nations Educational, Scientific and Cultural Organization, Paris.

Presentation: ODeL in STEM Practical Teaching, Learning and Assessment

Enhancement of teaching, learning and assessment with Open and Distance e-Learning (ODeL) in higher education

The UHI experience

Dr. John O. Omagino
Executive Director
UGANDA HEART INSTITUTE

4TH ANNUAL HIGHER EDUCATION CONFERENCE

Overview

- UHI summary
- Scope
- Our experience, lessons learnt and challenges
- Next steps

The Uganda Heart Institute

- Uganda Heart Institute (UHI) was established as an autonomous body by an Act of Parliament (The Uganda Heart Institute ACT, 2016).
- A super specialized leading provider of cardiovascular services and the only National Referral Facility for heart diseases in Uganda.
- Has trained cardiac super specialists and installed a state of the Art Cardiac catheterization laboratory and operating theatre which have enabled them to conduct ground breaking heart surgeries and interventions of World-Class.
- Supports regional referral hospitals to improve CVD care

Our Scope

- Care and preventions
- Training
- Research

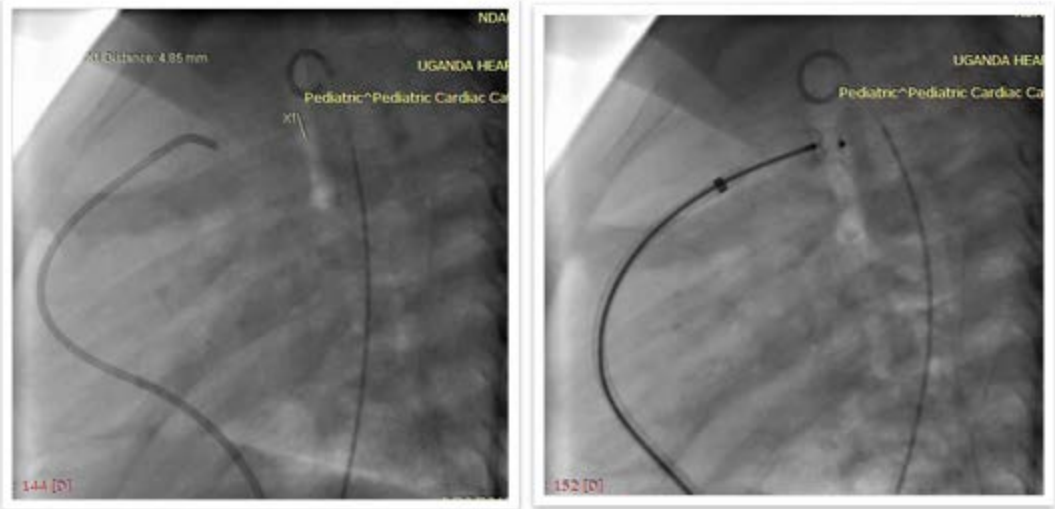
Cardiac Operating Theatre

Cardiac Theatre

Cardiac Critical Care

Cardiac Catheterization Lab in UHI (Started in 2012)

PDA Device closure



ROADMAP TO SUPERSPECIALISATION

Levels of Cadres in Medical field and level of care

Cadres	Level of Training	Years of Training	Level of Care
Medical Officer	MBchB	5 – 7 years	General Practitioner
Medical Officer Special Grade	MMed	3 – 5 years	Specialist
Super Specialist	Fellowship	3 – 5 years	Super specialized care

Difference between PhD and Fellowship Training

PhD	Fellowship
Highly Academic	Highly focused on care
Research Focus	Focus on skills building
Less focus on care	
Major tasks includes: Research, teaching and care in their order of focus	Focus on care, training and Research

SKILLS IN FELLOWSHIP

SKILLS	INDICATOR/FOCUS
Open Heart Surgery	• Numbers • Outcomes • Complexity • Publications • Training programmes • Accreditations
Diagnosis	
Diagnostic and Interventional catheterization laboratory procedures	
Critical Care management	

TRAINING PROGRAMES FOCUS

FOCUS	UNIVERSITY	FELLOWSHIP/SUPERSPECIALISATION
Knowledge	High	Medium
Skills	Medium	High
Attitude orientation	Low	High
Student Requirements	• Does not require full time attendance and participation • Registration with professional council is not required	• Require full time participation and attendance • Require full registration with professional councils

Attitude change

- Patient centered care
- Listener
- Consultative
- Team approach
- Humility
- Not easily offended
- Respect for all stakeholders (patient, family, colleagues)

Examples of Super Specialization training

S/No.	Name of Board Specialty	Course Type	Name of Eligible Super Specialty Course(s)
1	MD/DNB GENERAL MEDICINE	DM	Clinical Heamatology
			Nephrology
			Medical Oncology
			Endocrinology
			Cardiology
			Pulmonary Medicine
			Neurology
			Gastroentorology
			Hepatology
			Clinical Immunology and Rheumatology
			Infectious Disease
			Critical Care Medicine
			Medical Genetics

Examples of Super Specialization training cont'd

S/No.	Name of Board Specialty	Course Type	Name of Eligible Super Specialty Course(s)
2	MD/DNB PSYCHIATRY	DM	Geriatric Mental Health
3	MD/DNB ANAESTHESIOLOGY	DM	Neuroradiology
			Interventional Radiology
4	MD/DNB ANAESTHESIOLOGY	DM	Cardiac Anaesthesia/Organ Transplant Anaesthesia & Critical Care/Paediatric and Neonatal Anaesthesia
			Critical Care Medicine

Examples of Super Specialization training cont'd

S/No.	Name of Board Specialty	Course Type	Name of Eligible Super Specialty Course(s)
5	MD/DNB PAEDIATRICS	DM	Cardiology
			Clinical Haematology
			Endocrinology
			Pulmonary Medicine
			Neurology
			Hepatology
			Clinical Immunology and Rheumatology
			Infectious Disease
			Medical Genetics
			Critical Care Medicine
			Paediatric Cardiology/ Neonatology/ Paediatric Gastroenterology/Paediatric Hepatology/Paediatric Nephrology/Paediatric oncology

Examples of Super Specialization training cont'd

S/No.	Name of Board Specialty	Course Type	Name of Eligible Super Specialty Course(s)
6	MD/DNB RADIOTHERAPY/RADIATION ONCOLOGY	DM	Medical Oncology
7	MD/DNB PHARMACOLOGY	DM	Clinical Pharmacology
8	MD/DNB PATHOLOGY	DM	Clinical Haematology
			Onco-Pathology
9	MD/DNB BIOCHEMISTRY	DM	Clinical Haematology
10	MD/DNB RESPIRATORY MEDICINE	DM	Pulmonary Medicine
			Cardiology
			Infectious Disease
			Critical Care Medicine

Examples of Super Specialization training cont'd

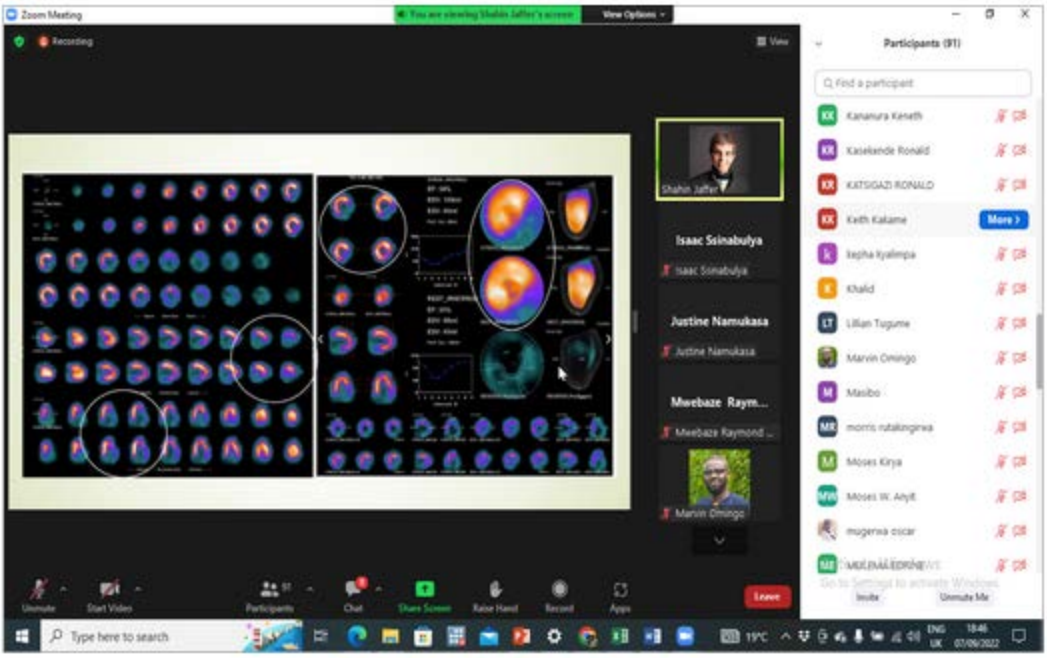
S/No.	Name of Board Specialty	Course Type	Name of Eligible Super Specialty Course(s)
14	MD/MS/DNB OBS. & GYNAECOLOGY	MCh	Gynaecological Oncology
			Reproductive Medicine and Surgery
			Medical Genetics
15	MS/DNB ENT	MCh	Head and Neck Surgery
16	MS/DNB ORTHOPADICS	MCh	Hand Surgery

Experiences – utilizing virtual platforms

- Case discussions – weekly (local and international partners)
- Webinars – McMaster series
  - Our team (fellows) alternate with leading these series
- Live series – echocardiogram, catheterization
  - Planning for interventions, skills transfer, which also helps team building
  - We have utilized this greatly in planning for camps
- Tele-support (Lira/Gulu experience)
- Critical care support – real-time patient monitoring and consultation

The UHI video conferencing facility

Hybrid meeting during the RHD landmark trial dissemination



Most recent webinar on chronic coronary disease – over 90 trainees from – East, central and southern Africa

PLOS ONE

OPEN ACCESS PEER-REVIEWED

RESEARCH ARTICLE

Establishment of a cardiac telehealth program to support cardiovascular diagnosis and care in a remote, resource-poor setting in Uganda

Alyssa DeWyer, Amy Scheel, Jenipher Kamarembo, Rose Akech, Allan Asiimwe, Andrea Beaton, Bua Bobson, Lesley Canales, Kristen DeStigter, Dhruv S. Kazi, Gene F. Kwan, Chris T. Longenecker, Peter Lwabi, [...], Craig Sable [view all]

Published: August 6, 2021 • https://doi.org/10.1371/journal.pone.0255918

Conclusions

Our data show that transmission and interpretation of echocardiograms from a remote clinic in northern Uganda is feasible, serves a population with a high burden of heart disease, has a significant impact on patient care, is favorably received by patients, and can be delivered at low cost.

Uganda Heart Association meeting

Hybrid session for knowledge exchange

Shared on:

- Recent updates in Heart failure
- Critical care and patient preparation
- Cardiac surgery in Africa – complex surgeries including interventions in the newborn

Challenges

- Time difference
- Internet interruptions
- Requirement for fast connectivity for live interactions

Next steps

- Support more regions utilizing virtual options
- Investment in mobile health and tele-support
- Linkage with more institutions for combined learning experience
- Integration of e-learning in all our core activities

THANK YOU

SESSION 3: Development of online research networks and resources for Higher Education

Presentation: The art of creative research networking

Creative Research Networking

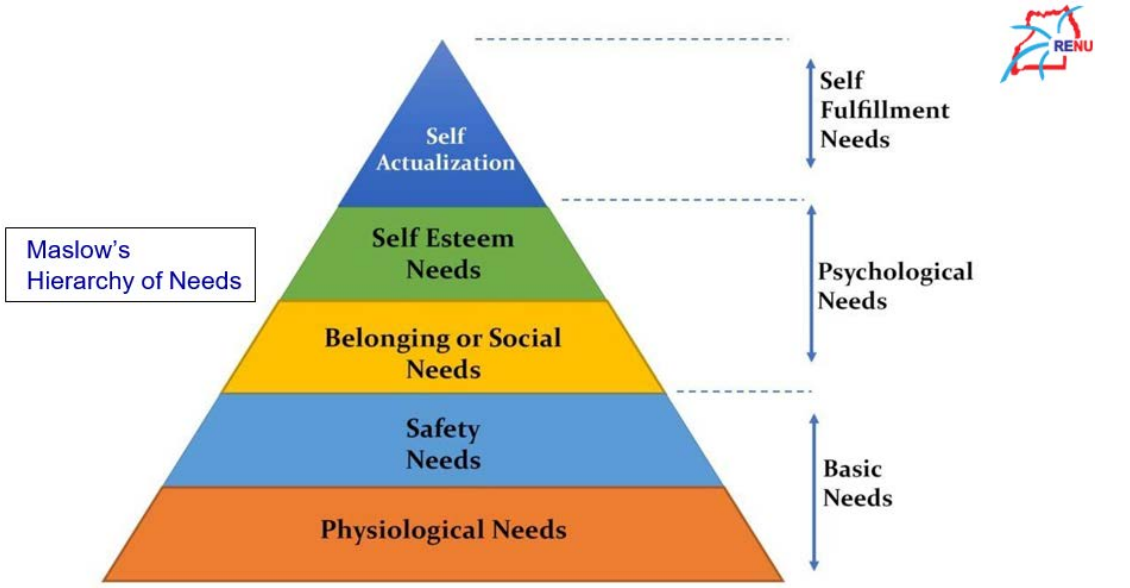
Presentation to the 4th Annual Higher Education Conference
National Council for Higher Education (NCHE)
14th & 15th September 2022

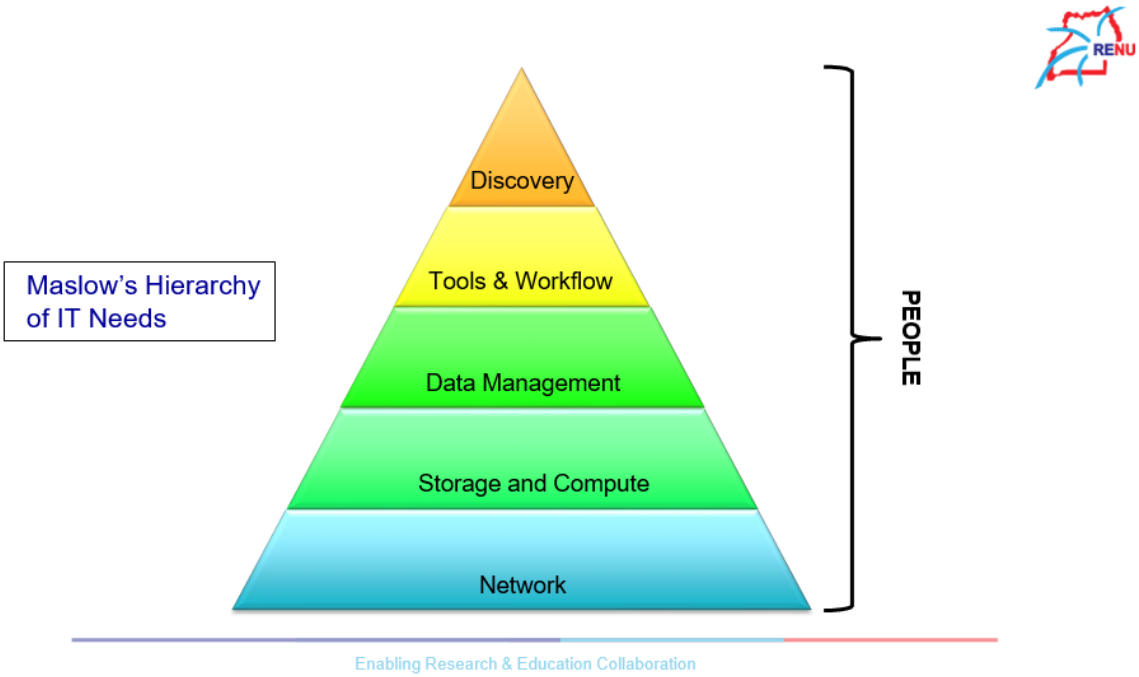
By
Nicholas Mbonimpa
ceo@renu.ac.ug

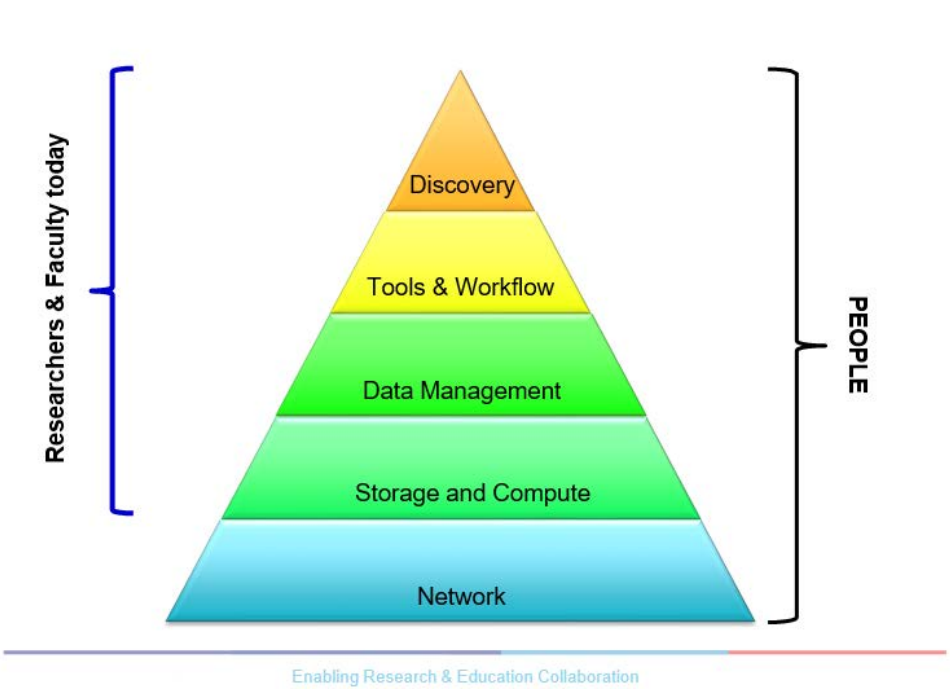
Enabling Research & Education Collaboration

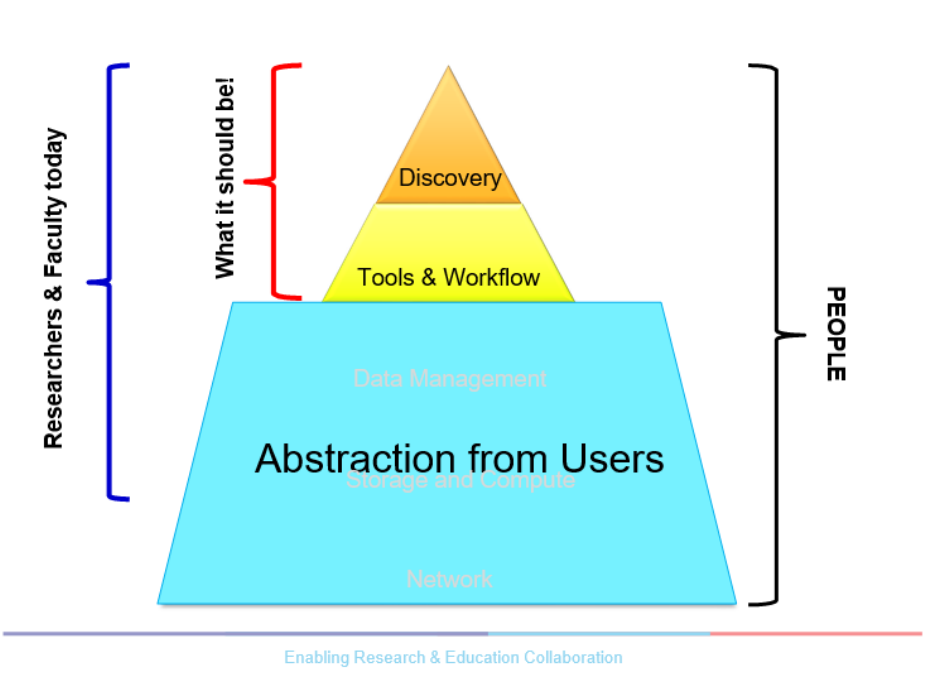
Outline

- Introduction
- RENU
- Connectivity
- Beyond Connectivity


Maslow's Hierarchy of Needs
Self Actualization
Self Esteem Needs
Belonging or Social Needs
Safety Needs
Physiological Needs
Self Fulfillment Needs
Psychological Needs
Basic Needs


Maslow's Hierarchy of IT Needs
Discovery
Tools & Workflow
Data Management
Storage and Compute
Network
PEOPLE
Enabling Research & Education Collaboration


Researchers & Faculty today
Discovery
Tools & Workflow
Data Management
Storage and Compute
Network
PEOPLE
Enabling Research & Education Collaboration


Researchers & Faculty today
What it should be!
Discovery
Tools & Workflow
Data Management
Abstraction from Users
Storage and Compute
Network
PEOPLE
Enabling Research & Education Collaboration

RENU - The Beginning

2006, Entebbe

- VCs of Universities
- CEOs and EDs of Research Institutions

16 Enabling Research & Education Collaboration

RENU - The Beginning

Initial challenge

- Reliable & affordable connectivity

BUT

- Connectivity just a means to an end

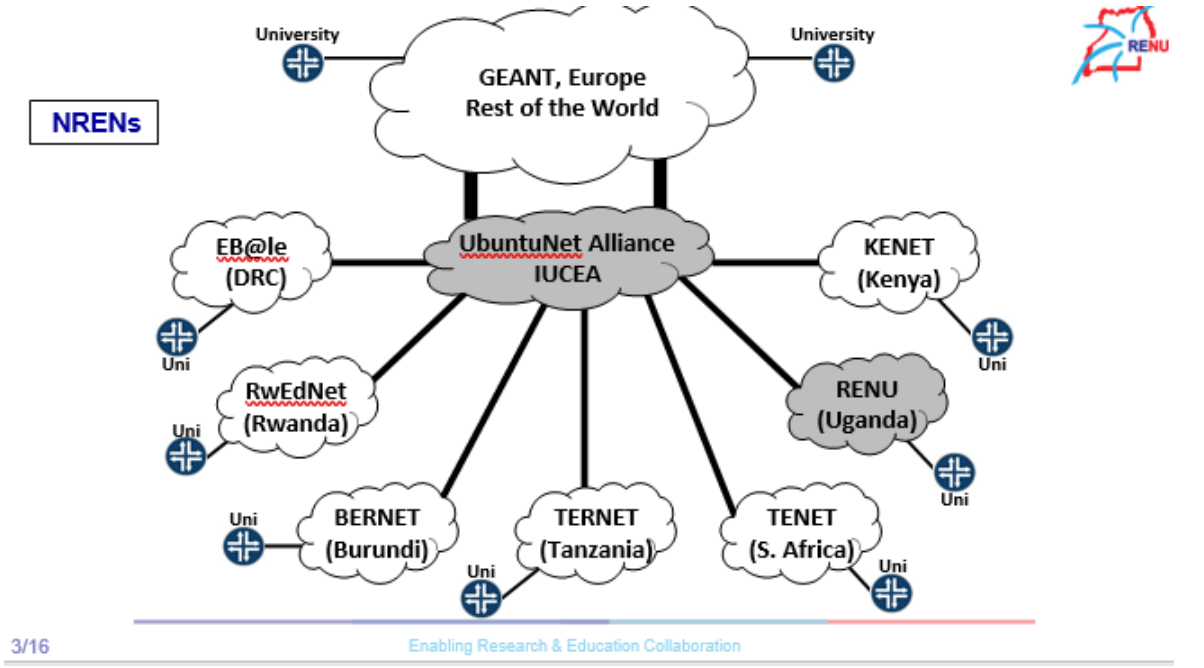
What's the end?

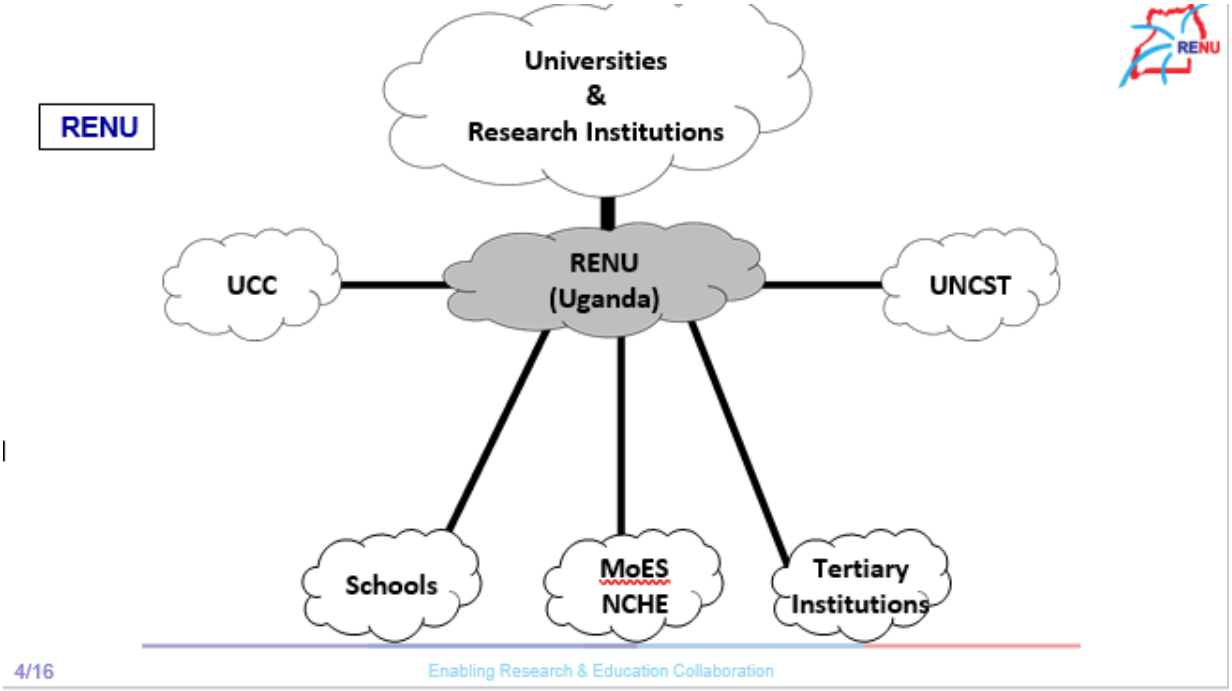
- Access to resources
- Improved methods
- Improved collaboration

Hence

- High quality education and research

2/16 Enabling Research & Education Collaboration

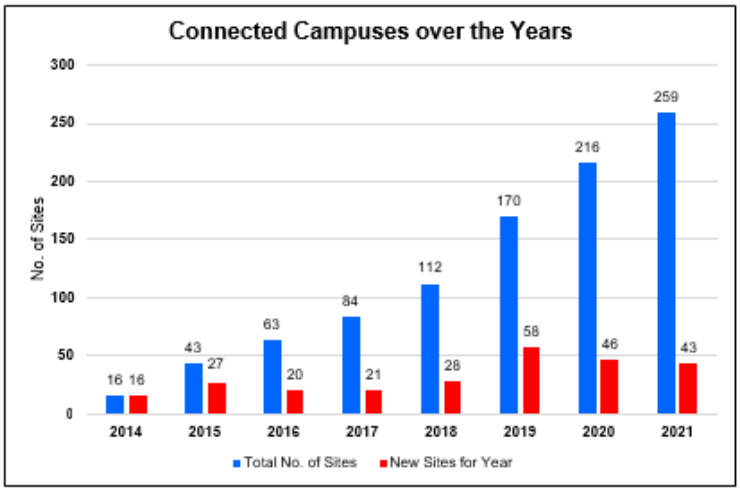

NRENs
University
University
GEANT, Europe
Rest of the World
EB@le
(DRC)
UbuntuNet Alliance
IUCEA
KENET
(Kenya)
Uni
Uni
RwEdNet
(Rwanda)
Uni
RENU
(Uganda)
Uni
Uni
BERNET
(Burundi)
TERNET
(Tanzania)
TENET
(S. Africa)
Uni
Uni
3/16
Enabling Research & Education Collaboration


RENU
Universities
&
Research Institutions
UCC
RENU
(Uganda)
UNCST
Schools
MoES
NCHE
Tertiary
Institutions
4/16
Enabling Research & Education Collaboration

Connectivity – On-campus

Year	2021	2020
Member Institutions	152	139
Connected Campuses	259	216
Universities	67	61
Research Sites	85	58
Tertiary Institutions	22	16
Affiliate Institutions	13	13
Schools	66	62
Hospitals	6	6

UGANDA COMMUNICATIONS COMMISSION



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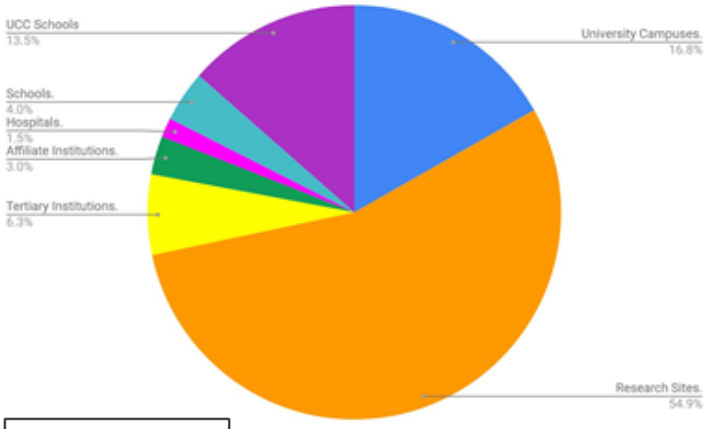
Connectivity – On-campus



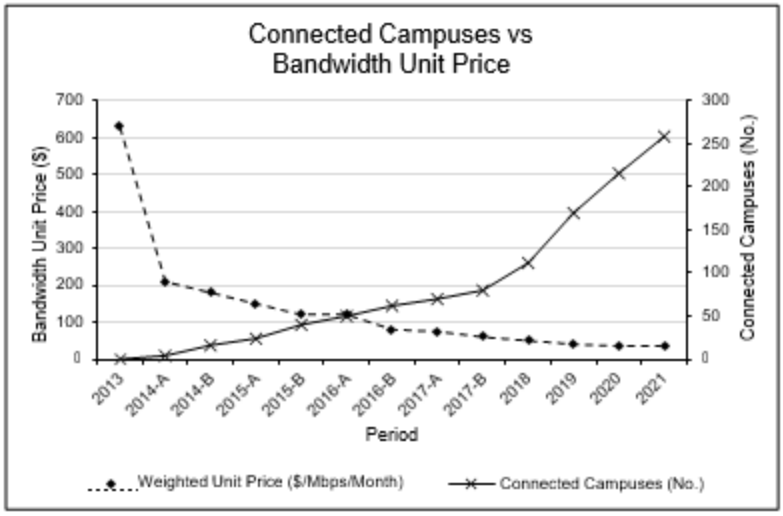
30th June 2022

Year	2022	2021
Member Institutions	167	152
Connected Campuses	399	259
Universities	67	67
Research Sites	219	85
Tertiary Institutions	25	22
Affiliate Institutions	12	13
Schools	70	66
Hospitals	6	6

- New campuses in 2022
  - **142** in total
- **300th** campus – 17th Jan.

6/16 Enabling Research & Education Collaboration

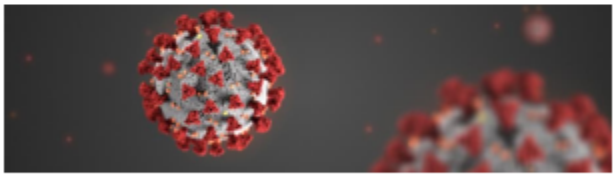
Connectivity – Bandwidth Price Drop



7/16 Enabling Research & Education Collaboration

BUT …

How about off-campus connectivity?



Enabling Research & Education Collaboration

Connectivity – Off-campus (Metro eduroam)

FREE

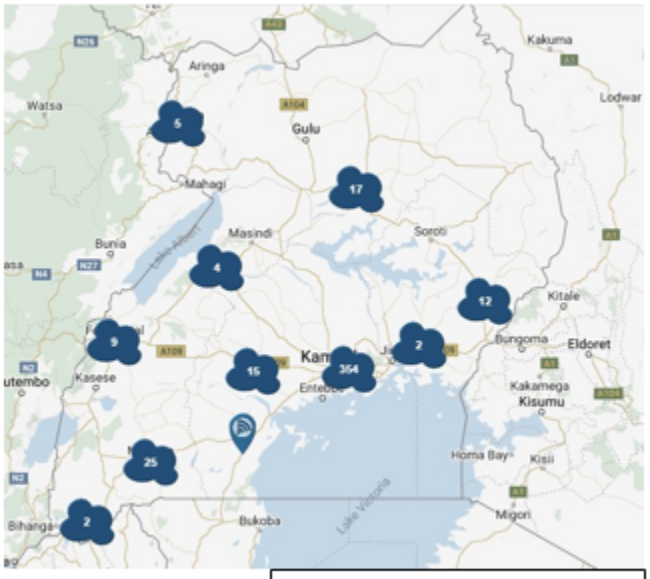
TRUSTED

SECURE

Launched 1st Sept. 2020

8/16 Enabling Research & Education Collaboration

Connectivity – Off-campus (Metro eduroam)

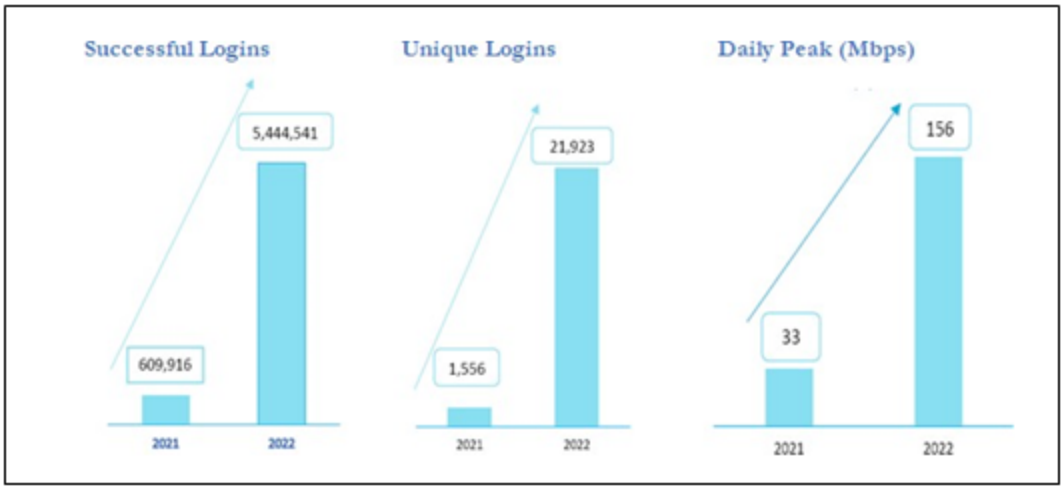


https://eduroam.renu.ac.ug/

Region	No. of sites
Hoima	4
Lira	2
Iganga	2
Sheema	3
Mbarara	19
Tororo/ Malaba	2
Ibanda	1
Jinja	18
Mbale	9
Gulu	12
Kasese	4
Fort Portal	4
Masaka	15
Arua	2

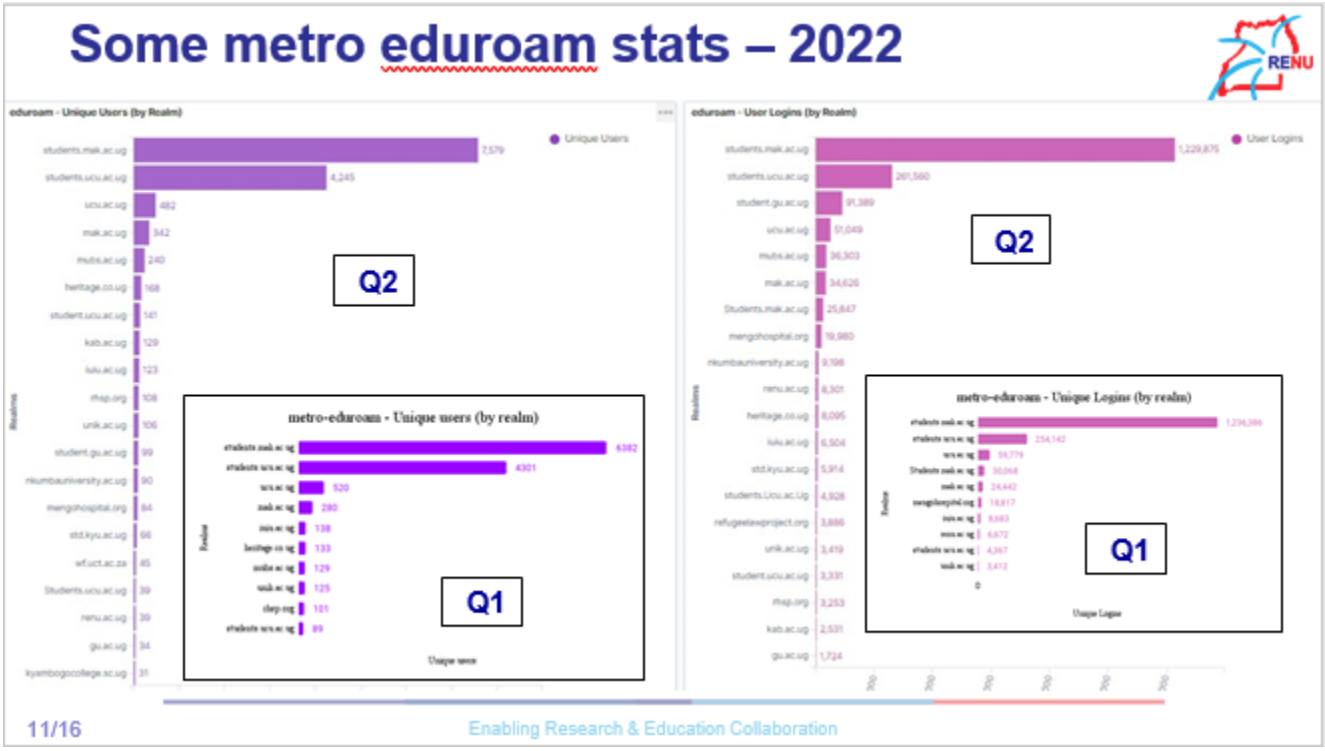
9/16 Enabling Research & Education Collaboration

Some metro eduroam stats – 2022 vs 2021



10/16 Enabling Research & Education Collaboration

Some metro eduroam stats – 2022



11/16 Enabling Research & Education Collaboration

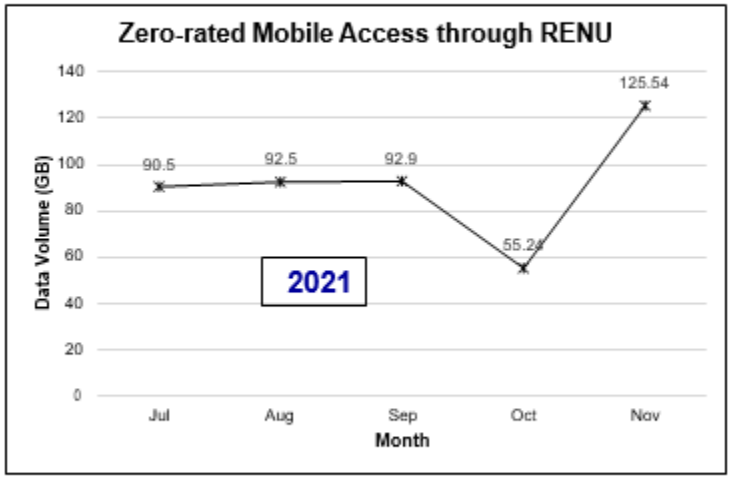
BUT …

Are 500+ WiFi hotspots countrywide sufficient?

Enabling Research & Education Collaboration

Connectivity – Off-campus (Zero-rating)

Launched 12th Oct. 2020



12/16

Enabling Research & Education Collaboration

BUT …

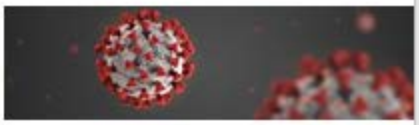
Are 500+ WiFi hotspots countrywide and zero rating sufficient?

Enabling Research & Education Collaboration

Connectivity Off-campus

- Portable
- Unlimited
- Mobility
- Secure

13/16



Enabling Research & Education Collaboration

Beyond Connectivity – Part I

- Technical capacity building
  - Improving quality of campus networks
  - Over 500 participants since 2014!
  - Equipment donations
  - Community of ICT developed
- Collaboration among institutions
  - Virtual seminars (over 60 schools)
  - High Performance Computing
  - Shared lectures
  - Remote surgeries
- Academic Integrity
  - Quality assurance
  - Anti-plagiarism (Turnitin)

14/16 Enabling Research & Education Collaboration

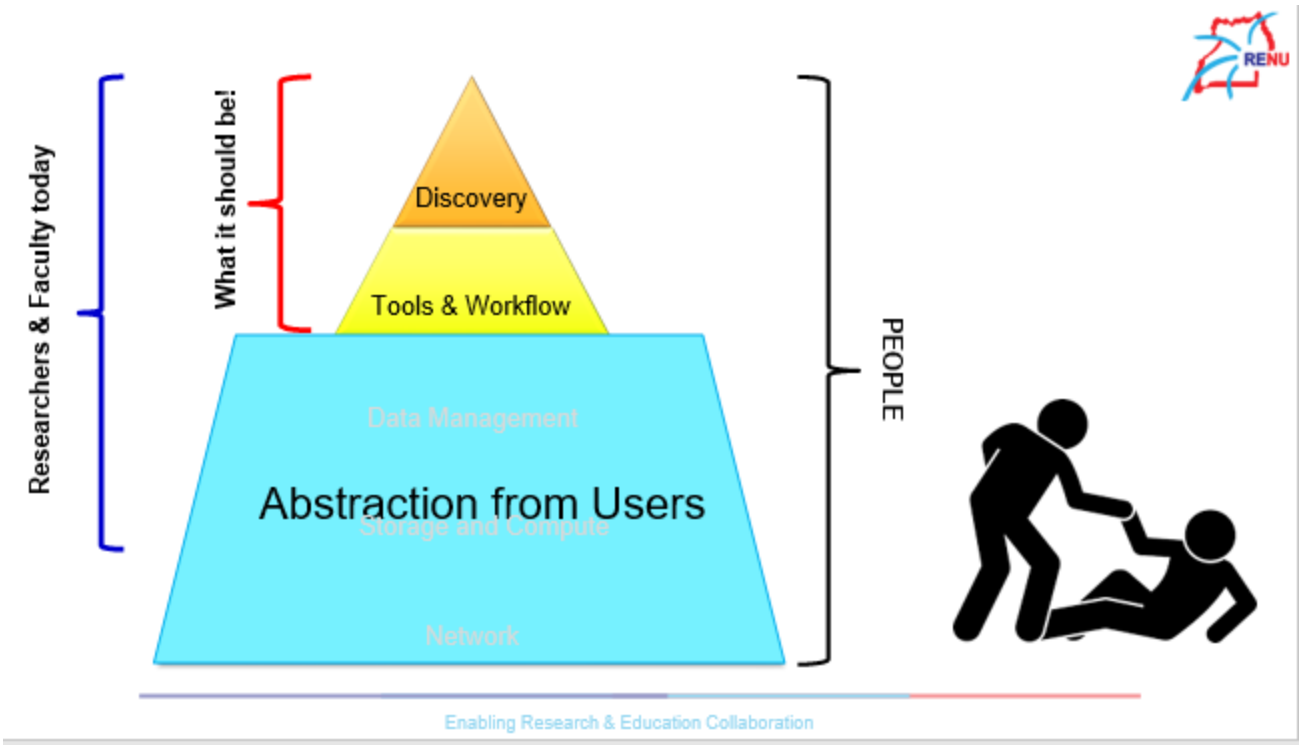
15/16 Enabling Research & Education Collaboration

Beyond Connectivity – Part II

- ODeL Process
  - Web conferencing
  - Learning Management Systems
- Data Storage and Processing
  - Cloud
  - Data Center
- Research Funding
  - LoRaWAN graduate projects
- Access to Digital Resources
  - Consortium of Uganda University Libraries
  - Identity Federation
- etc

IDENTITY FEDERATION FOR SERVICE PROVIDERS

16/16 Enabling Research & Education Collaboration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PEOPLE
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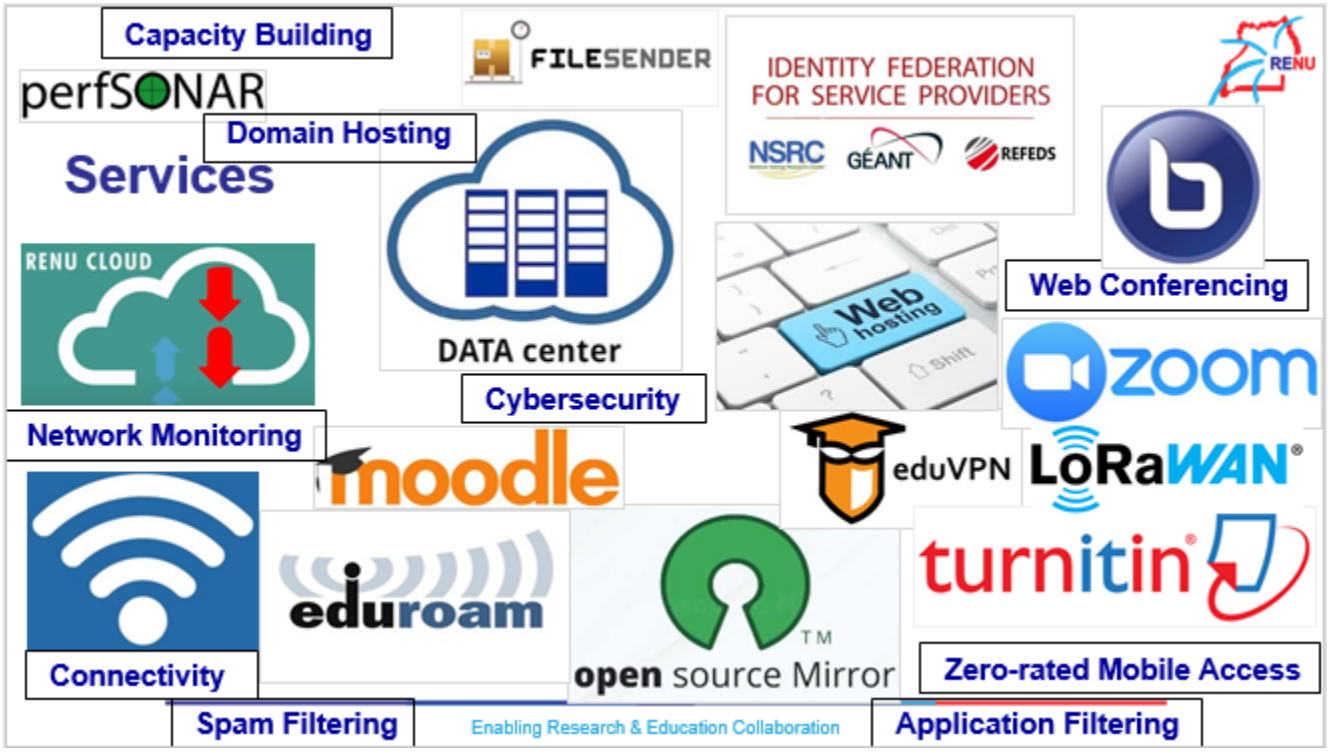

Capacity Building
perfSONAR
Domain Hosting
Services
FILESENDER
IDENTITY FEDERATION FOR SERVICE PROVIDERS
NSRC
GÉANT
REFEDS
RENU CLOUD
DATA center
Web hosting
Web Conferencing
zoom
Cybersecurity
Network Monitoring
moodle
eduVPN
LoRaWAN
eduroam
turnitin
Connectivity
open source Mirror
Zero-rated Mobile Access
Spam Filtering
Enabling Research & Education Collaboration
Application Filtering

Thank You!

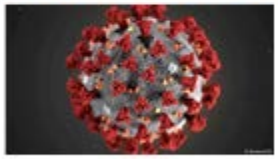
www.renu.ac.ug

Enabling Research & Education Collaboration

Presentation: Online research and lessons from SIDA-SAREC project

ONLINE RESEARCH AND LESSONS FROM SIDA PROGRAMME

4th Annual Higher Education Conference, 14th-15th September 2022



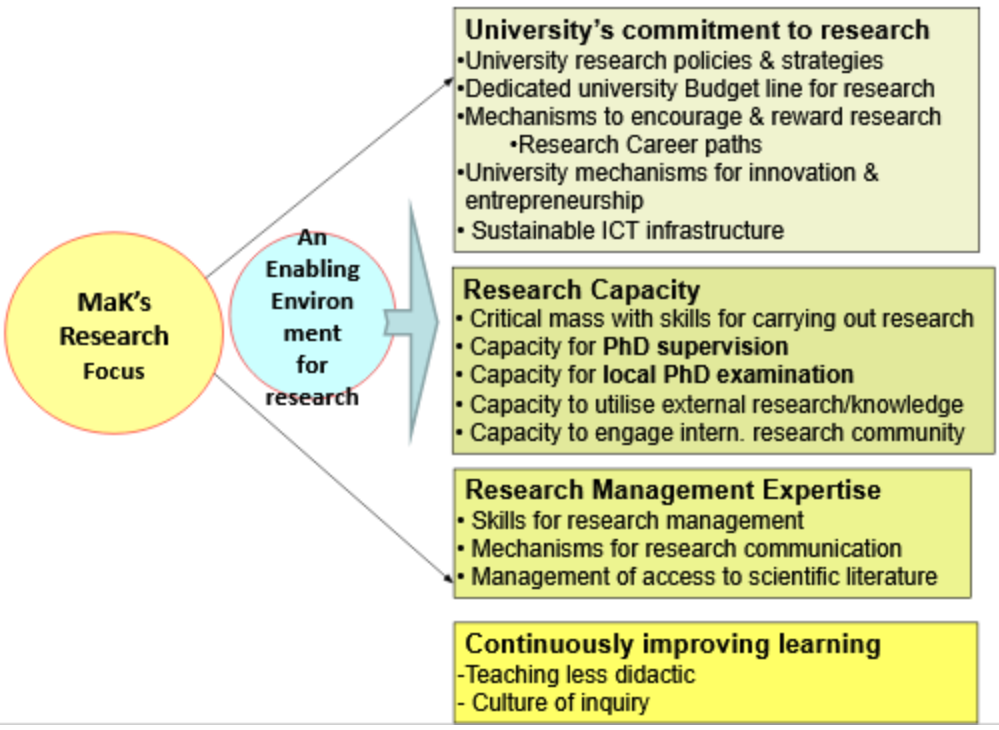
Professor Buyinza Mukadasi

Director of Research & Graduate Training

MAKERERE UNIVERSITY

1

Sweden supports MAK Research capacity Dvpt, 2000 -2022



How can I do online research effectively?

Internet-based research / **Online research** is a method that involves the collection of information from the internet.

- Don't rely exclusively on Net resources. ...
- Narrow your research topic before logging on. ...
- Know your subject directories and search engines. ...
- Keep a record of sites you visit and the sites you use. ...
- Double-check all URLs that you put in your paper.

4

Pros

- Time: No need for travel time, online surveys take shorter time
- Cost-Effective: Incentivizing research participants is costly.
- No Borders: Easy to reach "hard-to-reach" audiences as long as the participants have an internet connection
- Diverse : With a dataset from online survey research, it is possible to conduct advanced analytics.
- Access to global literature resources
- No distance barriers
- Increased research output, publications increase

Cons:

- Lack of Probing: In qualitative research, you can ask the "why's" or modify the guide in real-time.
- Local or Very Specific Audiences: Online recruitment can be difficult where extraordinarily specialized are required
- High initial cost, procurement of platform, devise and data
- **Lab-based research remains a challenge with e-research**

5

Opportunities for Online Research approaches:

- Diversity of ICT aids: Laptop, Smartphone, PC, TV, Tablet; Projector; Radio; Smart feature phone; Basic mobile phone; MP3 player;
- Flexibility and Continue with research activities irrespective of geographical barriers
- Creates equal opportunity for all age, disabilities, and gender
- Partnerships have increased due to online research with many Institutions delivering collaborative research programmes
- Multiple media materials
- Real-time and easy share of digital resources despite geographical barriers,
- Cheaply or free in MOOCs, Open Resources

- Can Lab-based research be achieved using e-research? YES

6

Challenges and threat :

- Technological advancement and skills gap widens btn rural and urban; rich vs poor
- Affordability and access of hardware, data, electricity and connectivity
- ICT illiteracy to benefit from online research.
- Attitude & cultural barrier to adoption of e-research
- Unprofessional etiquettes and Unethical tendencies on online e.g plagiarism
- Practical engagement/interaction is undermined
- Supervisor-Researcher feedback is very irregular
- Uncertainty over quality of e-research data and reports
- Internet connection and hardware are still a challenge
- Lack of localized digital materials (over dependence on foreign materials).
- Uncoordinated ICT integration in research processes.
- Lack of affordable and accessible Lack of a good home online research environment
- Capacity building, professional development and use of applications like TEAMS/ Google Classroom, Flipgrid, Socrative, Mentimeter, Nearpod, One Note.

7

Key Learning and Action Points from Sida programme:

1. Development of online Research resources:

- Support establishment of shared online resources that are accessible to all, calls for collaboration and strong investments that promote increased access to online content to overcome the digital divide.
- Need to establish an African Digital Library that provides open access to online resources accessed anywhere.
- Adapt to already existing online research resources that can be applied to their own context.
- Resilience, recovery and adoptable: review the workplans and adopt the digital research

8

Technical considerations

- Infrastructure, Technology and Connectivity: Low cost broadband to make connectivity affordable to all
- Research Environments, materials, Facilities
- Institutional policy and funding (policy allows on research research? Cost?
- Features and services: Reliability/stability, flexibility, scalability, data security?
- Interoperability: Easily integrate with other existing systems (soft & hardware)?
- Technology environment: Suitable for the e-research?
- Human Capacity: IT staff require additional training? Hire staff with ICT skill sets?
- Support: Extensive maintenance cost? Do vendors offer tiered support plans
- Sustainability: Does platform update regularly or does it follow the trends?

9

Key Learning and Action Points from Sida programme:

2. Promotion of online research:

- Develop policies, regulations and system that support migration to online Research – Fourth Industrial Revolution conditions (4IR).
- Universities to take up cost of power and internet to enable access and use of online research at home/out of station.
- Partnership with telecoms for preferential rates of data bundles to lower down cost of internet access
- Govts should legalise and accredit eLearning activities
- Develop Smart budgets that reduce cost of internet data bundles, tax holiday for data, leading to equitable access to e-research platforms.
- Public sensitization that online research is as credible as face-to-face interaction
- Communicate with internet providers for reasonable pricing of their services

10

Key Learning and Action Points from Sida programme:

3. Online Research platforms and technical considerations:

- Training, Capacity Building in IT
- Design web platforms that are interactive and can be accessed anywhere.
- Ensure user-friendly digital platforms - flexible, open, usable, scalable.
- Inclusivity: ensuring that researchers from different backgrounds are able to utilise the platform.
- Join national research and education networks, to provide cheaper connectivity and intra network cost neutral sharing of resources.
- Provide supervisors with training, as well as materials and technology.

11

Key Learning and Action Points from Sida programme:

4. Capacity building :

- Continuous professional development in ICT
- Partnerships, Incentives and Creating an Enabling Environment
- Develop supervision capacity to facilitate tech-based research.
- Build competences to use of the online resources.
- Foster attitude change to embrace web-based mode.
- Holistic environment (infrastructure and skills) to allow for sustainable adoption of online platforms.
- Building capacity requires collaboration with telecom to provide affordable data access.
- Develop adequate ICT infrastructure such as connectivity.

12

What Does the Online Research mean for Your University?

- New systems and approaches to doing research
- Increased costs for doing some research activities
- Reduced costs for doing some activities
- long term effect of the crisis will be that it leads to new opportunities for research systems.

What have we don so far?

- Capacity development
- Facilitation for internet access
- Developed guidelines (online Supervision & thesis examination)
- Reviewed research training curriculum
- Ramped up the Digitization process
- Fundraising for establishing virtual Research spaces
- Bridging research grant opportunity
- Research grants? Increased with online research approaches?

13

The New Normal – Mind set Shift

- Means new thinking; doing things differently; different e-world as we know it.
- Taking advantage of the windows of opportunity; Willingness to experiment; Enthusiasm to continue online research;
- Embracing change – stop hesitating
- Daring to think differently; daring to imagine a different world and how to thrive within that world.
- Plan for resilient universities to adopt and embrace e-research in the future
- Welcome stimulus for technology assisted research and a boost for e-research and a transformed continent

14

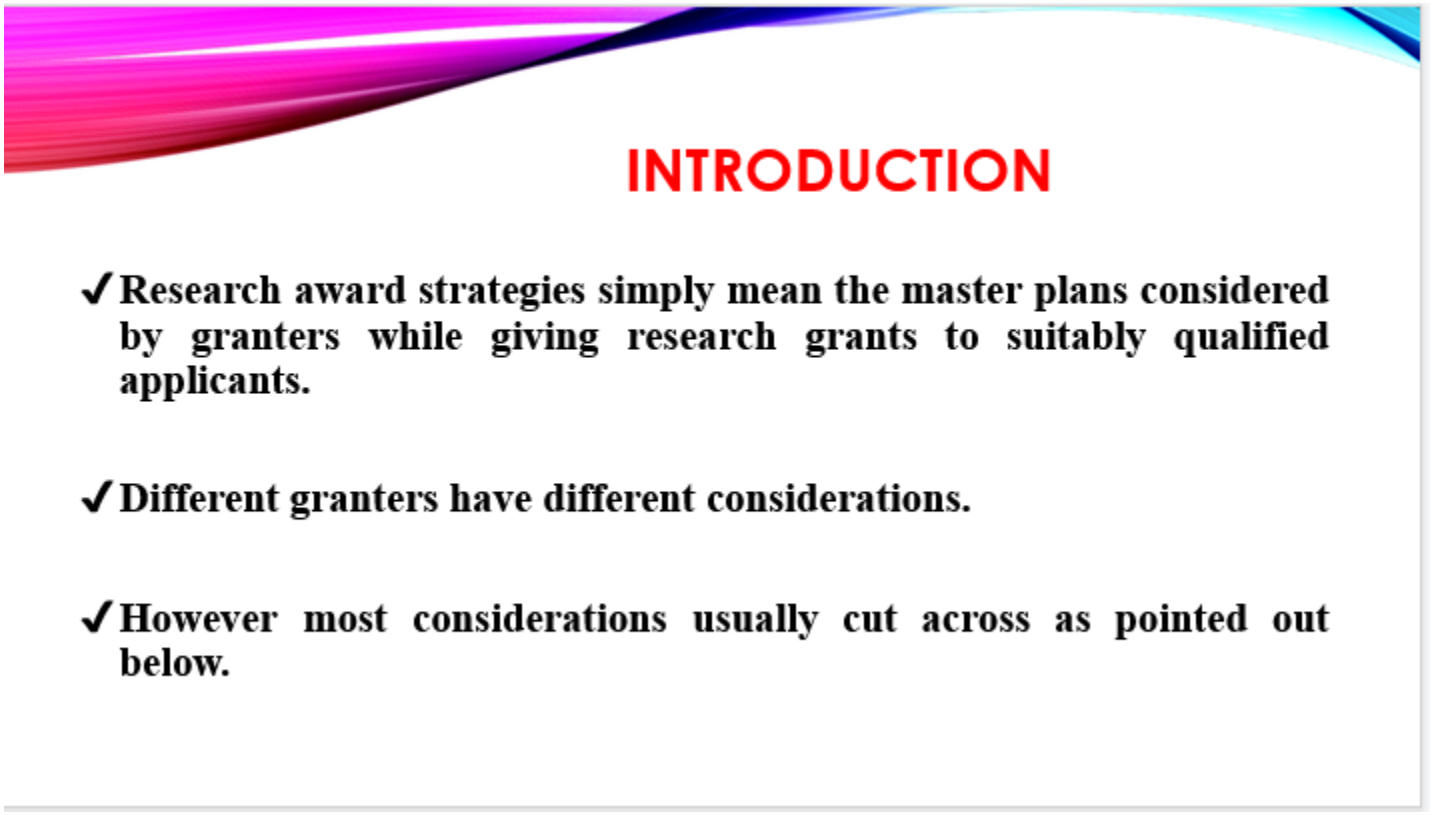
Discussion

Suppose money was not an issue:

- Based on the experiences, what has been the effect of online research at your institution?
- In what ways has online research enabled you to make progress?
- What have you done to prepare for online research?
- What next? How do we keep momentum?

15

Presentation: Research award strategies



NITTY GRITTY

- ✓ The completeness of the concept note.
- ✓ The timeliness of the application/ meeting deadlines.
- ✓ The word count of the concept note . (In not more than 600 words)
- ✓ The relevance of the research topic/concept to the research award call. (The concept note should be within the scope of the call)
- ✓ Qualifications of the principle investigator. (Support letter, gender, level of studies, area of expertise, references, experience)

NITTY GRITTY…

- ✓ The research team characteristics. (Gender sensitivity, CVs of team members, multidisciplinary team)
- ✓ Formality of the institution. How the institution through which the research project is going to be implemented complies with conventions, regulations and customs. (Bioinnovate call; legal status of the organization, latest audited financial statement)
- ✓ The correctness the physical address, contacts (Email, telephone)

NITTY GRITTY…

- ✓ The connectivity of the topic to the selective thematic area, research question and the focus area.
- ✓ Research/project idea: Description of your project idea.
- ✓ Problem area: What problem are you trying to address?

NITTY GRITTY…

- ✓ Solution: Description/ Presentation of the applicant's solution to the problem, how is the solution innovative? Usually innovations that can be commercialized/ converted to products have an added advantage.
- ✓ Methodology: Description of how the applicant will develop his/her solution. Inclusion of a 3-5 high-level research project stages and description of the grant spending plan in achieving the impact/scale desired e.g, Product development, product testing, product launch and marketing, product scaling.

NITTY GRITTY…

✓ **Anticipated research project implementation duration/ Time bound.**

✓ **Relevance: The relevance the application to the NPD III, Vision 2040, East African Vision 2050, African Union agenda 2063, the Sustainable Development Goals and the UN agenda 2030.**

✓ **Expected outputs/outcomes/impact**

Value added employment, increased income levels, value chain extension or increased value chain localization, documented future value for Uganda, putting new products on the market or added prestige to Uganda.

NITTY GRITTY…

✓**Project schedule : Has the applicant uploaded a Gantt chart showing key project milestones and expected completion dates. Work breakdown structure.**

✓**Sustainability. Does the applicant expect to generate money during the first few years of the grant? How will the innovation be sustained in the medium and long term?**

✓**Budget/risk register: Is the applicant's innovation currently being funded by any other source? Cost effectiveness of the research project. A complete budget with a justification(personal costs).**

NITTY GRITTY…

- ✓ Existing or planned partners for the proposed solution (e.g., Farmers, NGOs, government agencies). (Telephone number; organization; role; contact person; email; phone number).
- ✓ Business model of the project.
- ✓ Ethical considerations of the research project.
- ✓ Environmental Impact Assessment plan.
- ✓ References and citations. (Zotero, End note, Mendeley)

Presentation: Innovative strategies for PhD Training

Introduction

Introduction

- Global economy of the 21st century driven by knowledge
- Unprecedented importance attached to research and innovations worldwide

- Sustainable Development Goal (SDG) goal 9, target 9.5 calls upon countries to encourage innovation and sustainably increase the number of researchers and spending on research and development (R&D) both public and private by 2030 (UNESCO, 2021)

Critical Role of Doctoral Education

- Apex for training researchers, doctoral education plays a crucial role in fostering research and innovations (Ayenachew, 2021)
- Determines the quality of education at all levels of the education pyramid (Cassuto & Welsch, 2021)
- Growth of interest in doctoral education and training worldwide triggered by countries' ambitions to establish themselves as knowledge societies or gain competitive advantage in the global knowledge economy (Bao et al., 2018)

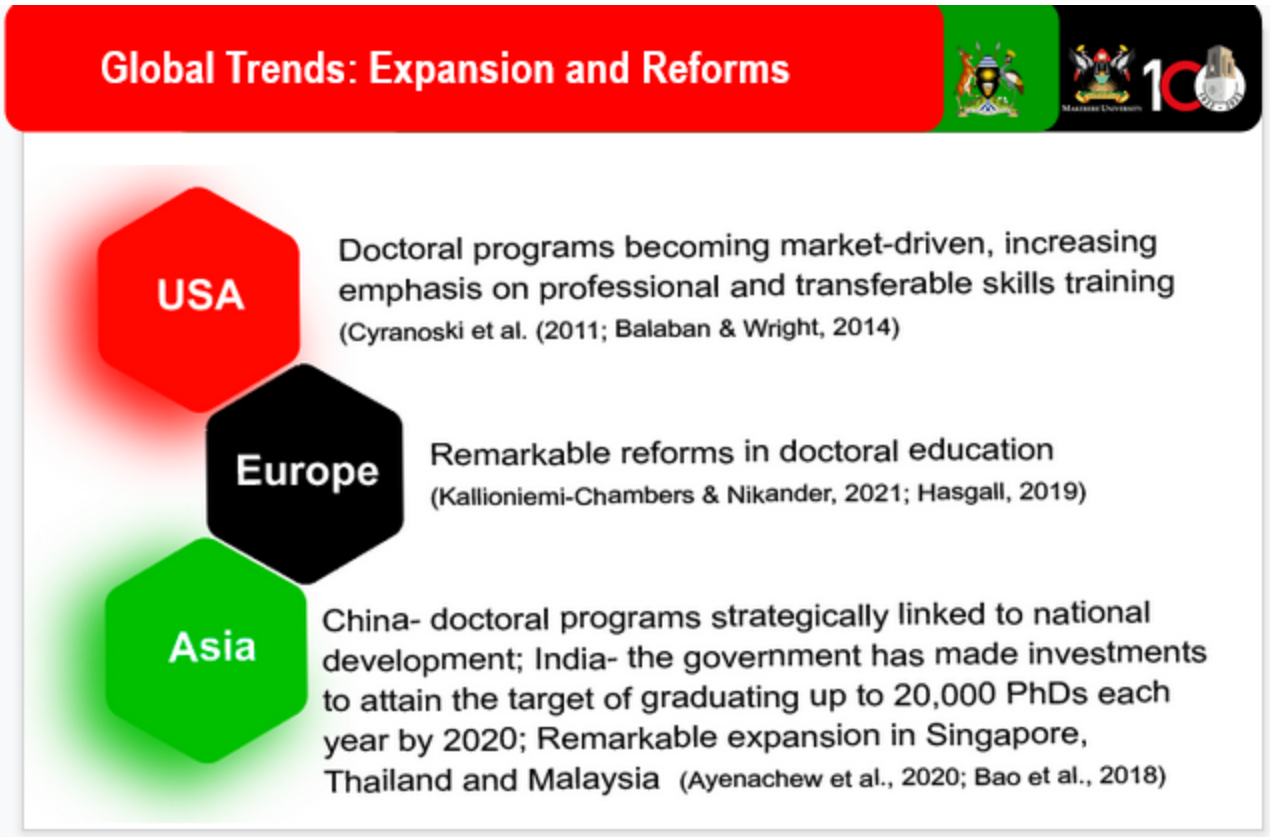
Expanding Purpose / Role of Doctoral Education

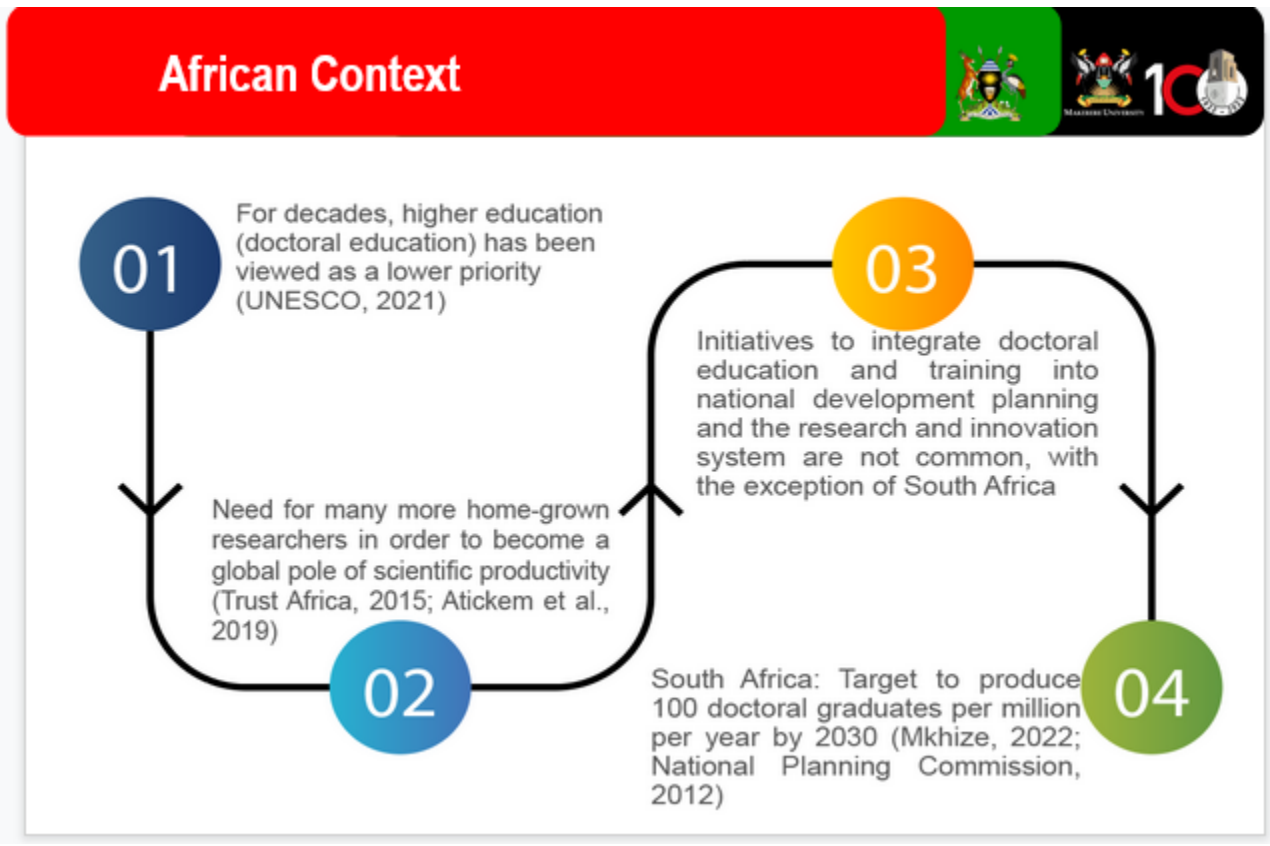
Traditional purpose

- Forward-looking knowledge generation and training of future academics (Frick et al., 2017; Hasgall et al., 2019)

Now

- Expanded role in the era of the knowledge-based society- doctorates are drivers of research and innovations (Sooryamoorthy & Scherer, 2022)
- Training for both academic and non-academic careers (Germain-Alamartine et al., 2021)
- Need for critical examination of the organization of doctoral education

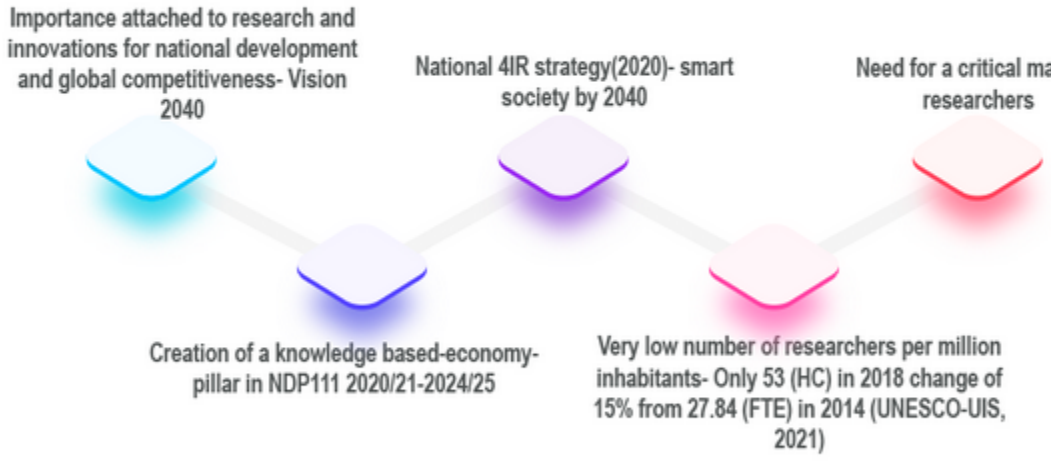

Global Trends: Expansion and Reforms
USA
Doctoral programs becoming market-driven, increasing emphasis on professional and transferable skills training
(Cyranoski et al. (2011; Balaban & Wright, 2014)
Europe
Remarkable reforms in doctoral education
(Kallioniemi-Chambers & Nikander, 2021; Hasgall, 2019)
Asia
China- doctoral programs strategically linked to national development; India- the government has made investments to attain the target of graduating up to 20,000 PhDs each year by 2020; Remarkable expansion in Singapore, Thailand and Malaysia (Ayenachew et al., 2020; Bao et al., 2018)


African Context
01
For decades, higher education (doctoral education) has been viewed as a lower priority (UNESCO, 2021)
02
Need for many more home-grown researchers in order to become a global pole of scientific productivity (Trust Africa, 2015; Atickem et al., 2019)
03
Initiatives to integrate doctoral education and training into national development planning and the research and innovation system are not common, with the exception of South Africa
04
South Africa: Target to produce 100 doctoral graduates per million per year by 2030 (Mkhize, 2022; National Planning Commission, 2012)

African Context: Policy Discourse

- Shared optimism about the vital role of doctoral education as a key driver of innovations and economic development in Africa
- Current discourse: quantity imperative, transformation in doctoral education (relevance, efficiency and quality imperative), and internationalization of doctoral education (competitiveness imperative) (African Network for Internationalization of Education, 2019; Sooryamoorthy & Scherer, 2022; Trust Africa, 2015)
- Need for national direction and support mechanisms for innovating doctoral education across African countries

Ugandan Context



State of Doctoral Education and Training in Uganda

Study by: Capability Enhancement Project for Innovative Doctoral Education at Ugandan Universities (CEPIDE). Findings:

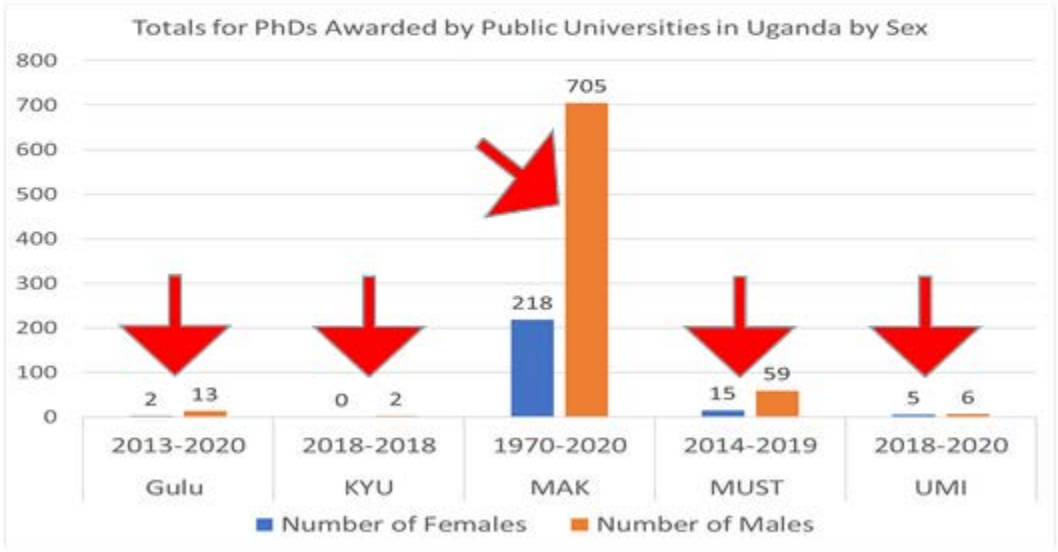
01 Low doctoral education and training capacity: Only about 1,197 PhDs have been awarded in Uganda between 1970-2020.

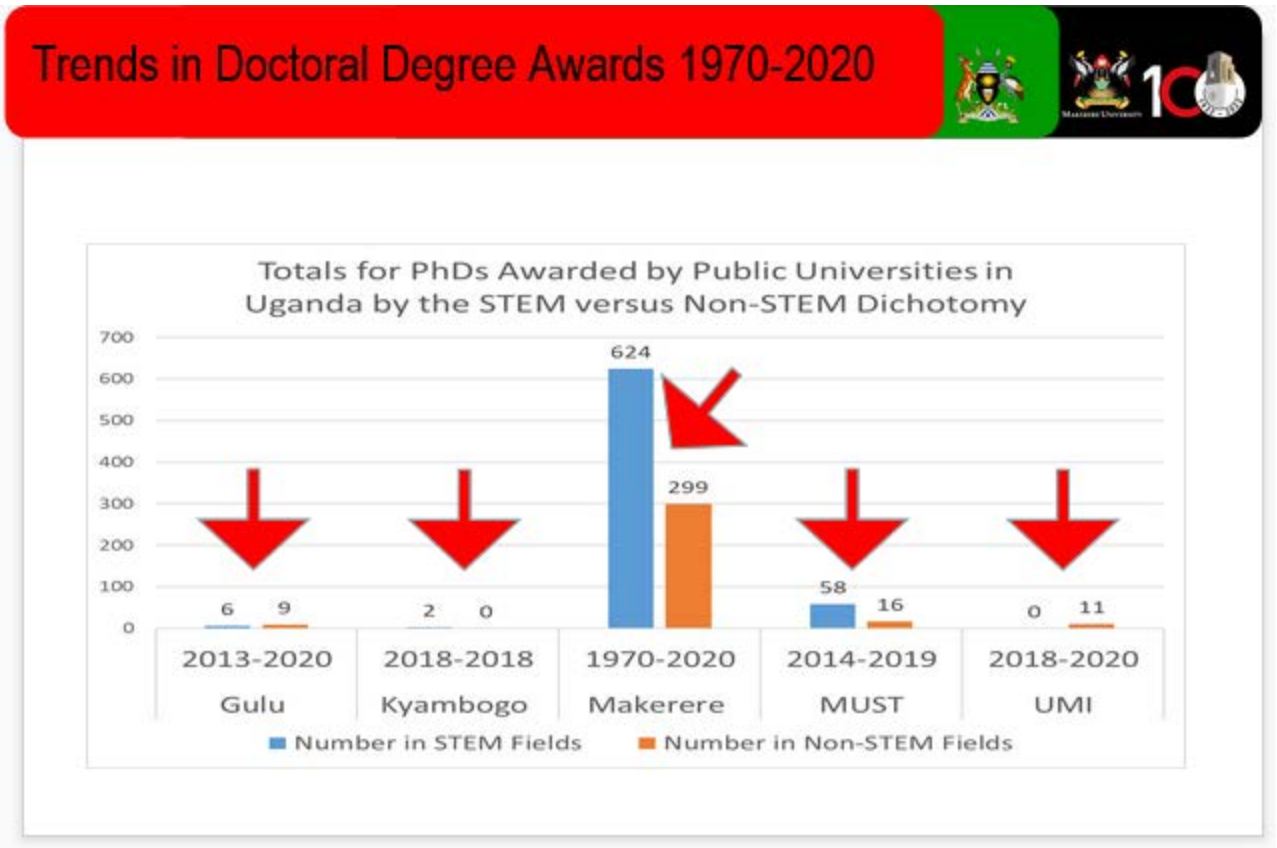
02 Lack of diversification of doctoral programmes- Traditional PhDs, mono-disciplinary focus.

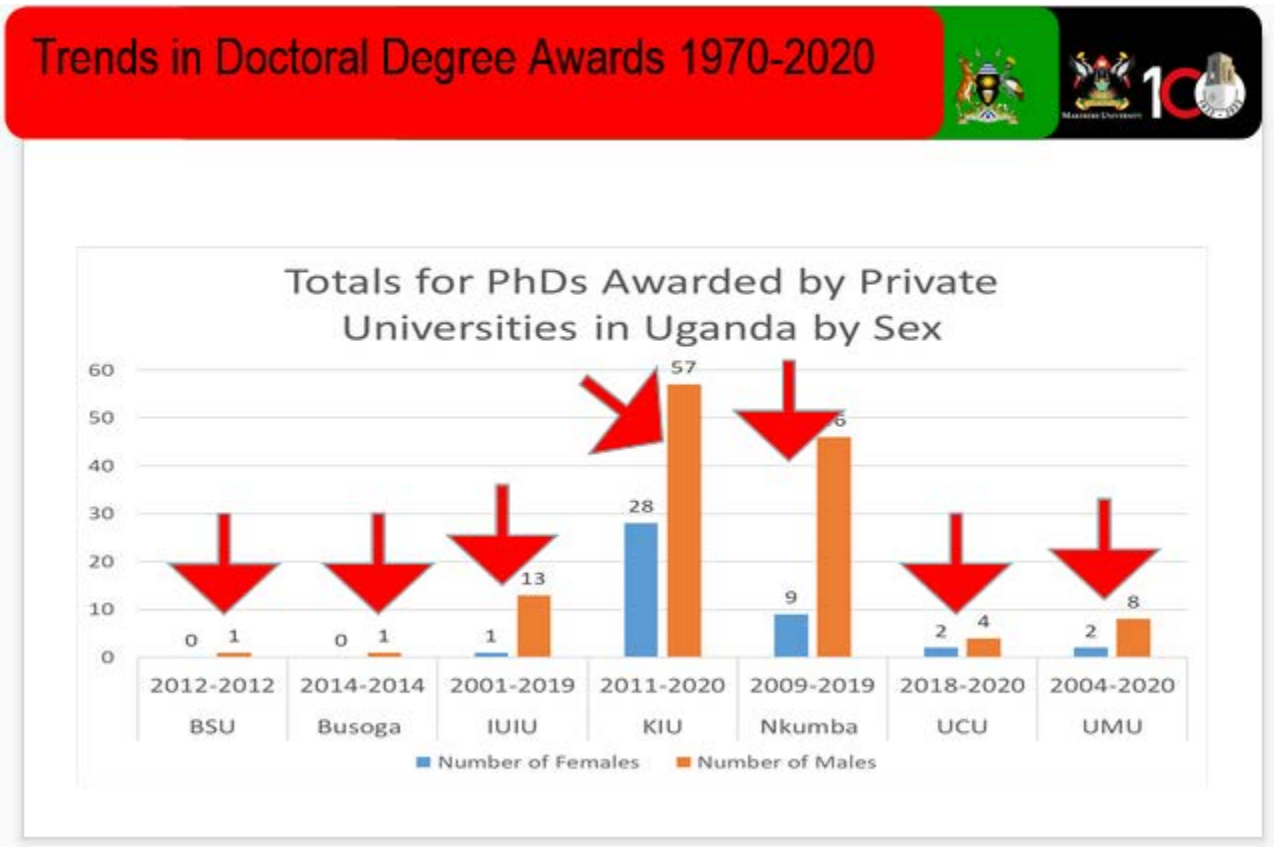
03 Constrained doctoral supervision and mentorship capacity

04 Gender inequality

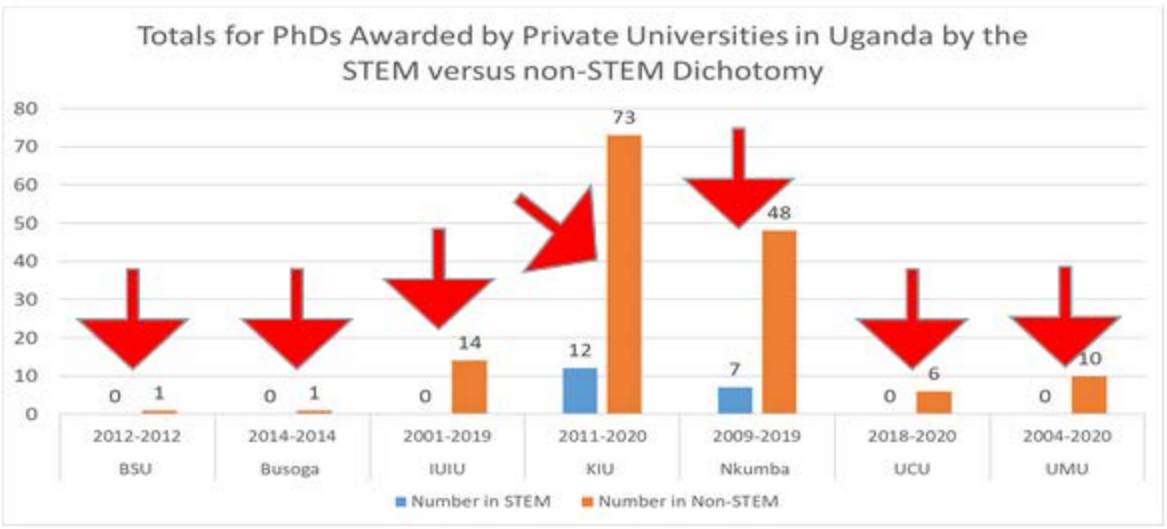
Trends in Doctoral Degree Awards 1970-2020




Trends in Doctoral Degree Awards 1970-2020
Totals for PhDs Awarded by Public Universities in Uganda by the STEM versus Non-STEM Dichotomy
700
600
500
400
300
200
100
0
6
9
2
0
624
299
58
16
0
11
2013-2020
Gulu
2018-2018
Kyambogo
1970-2020
Makerere
2014-2019
MUST
2018-2020
UMI
Number in STEM Fields
Number in Non-STEM Fields


Trends in Doctoral Degree Awards 1970-2020
Totals for PhDs Awarded by Private Universities in Uganda by Sex
60
50
40
30
20
10
0
0
1
0
1
1
13
28
57
9
46
2
4
2
8
2012-2012
BSU
2014-2014
Busoga
2001-2019
IUIU
2011-2020
KIU
2009-2019
Nkumba
2018-2020
UCU
2004-2020
UMU
Number of Females
Number of Males

Trends in Doctoral Degree Awards 1970-2020



Innovativeness of Doctoral Programs

Lens: Principles of Innovative Doctoral Training

(European Commission, 2011)

- Research Excellence- insufficient
- Attractiveness of the Institutional Environment- poor/low quality
- Interdisciplinary Research Options- insufficient/non-existent
- Exposure to the Relevant Industry- insufficient/non-existent
- International Networking- insufficient
- Transferable Skills Training- insufficient
- Quality Assurance- insufficient

Need for Innovating Doctoral Education and Training

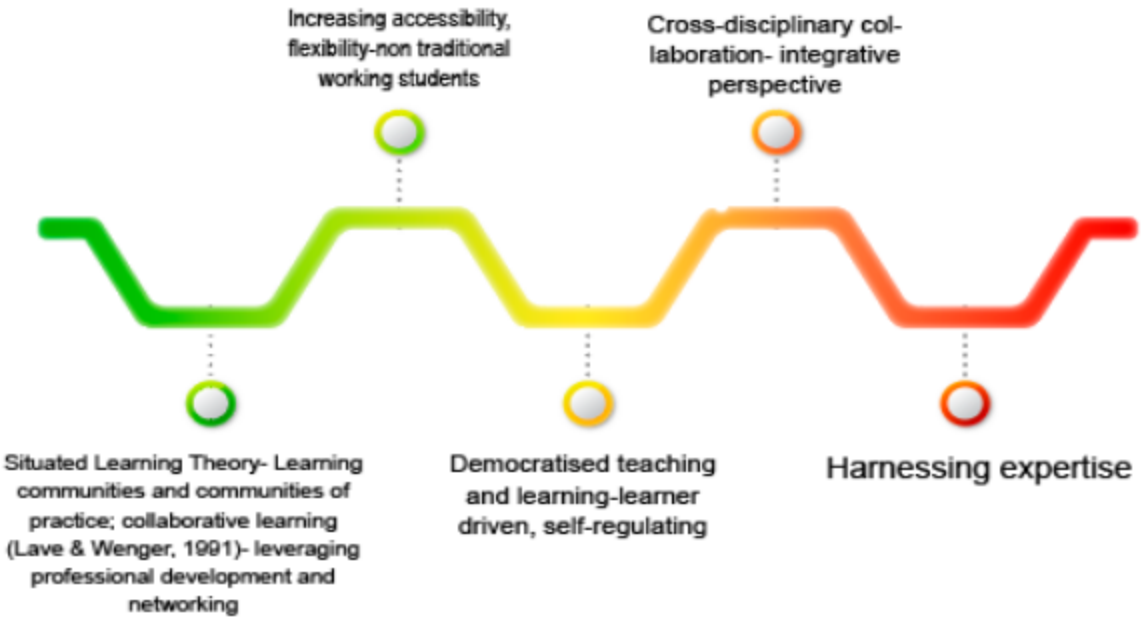
- **Changes in student demographics and career aspirations-** working adult part-time students with mixed disciplinary backgrounds; careers for doctorates have become more fluid- doctorates pursuing careers out side academia (Germain-Alamartine et al., 2021; Hoyne et al., 2016; Ortega & Kent, 2018)

- **Changing needs of society and the education sector-** public criticism of purely academic knowledge generation, increasing pressure to demonstrate the relevance of doctorates and doctoral research outputs to society (Finch et al., 2021; Hasgall et al., 2019; Spronken-Smith, 2018)

Need for Innovating Doctoral Education and Training

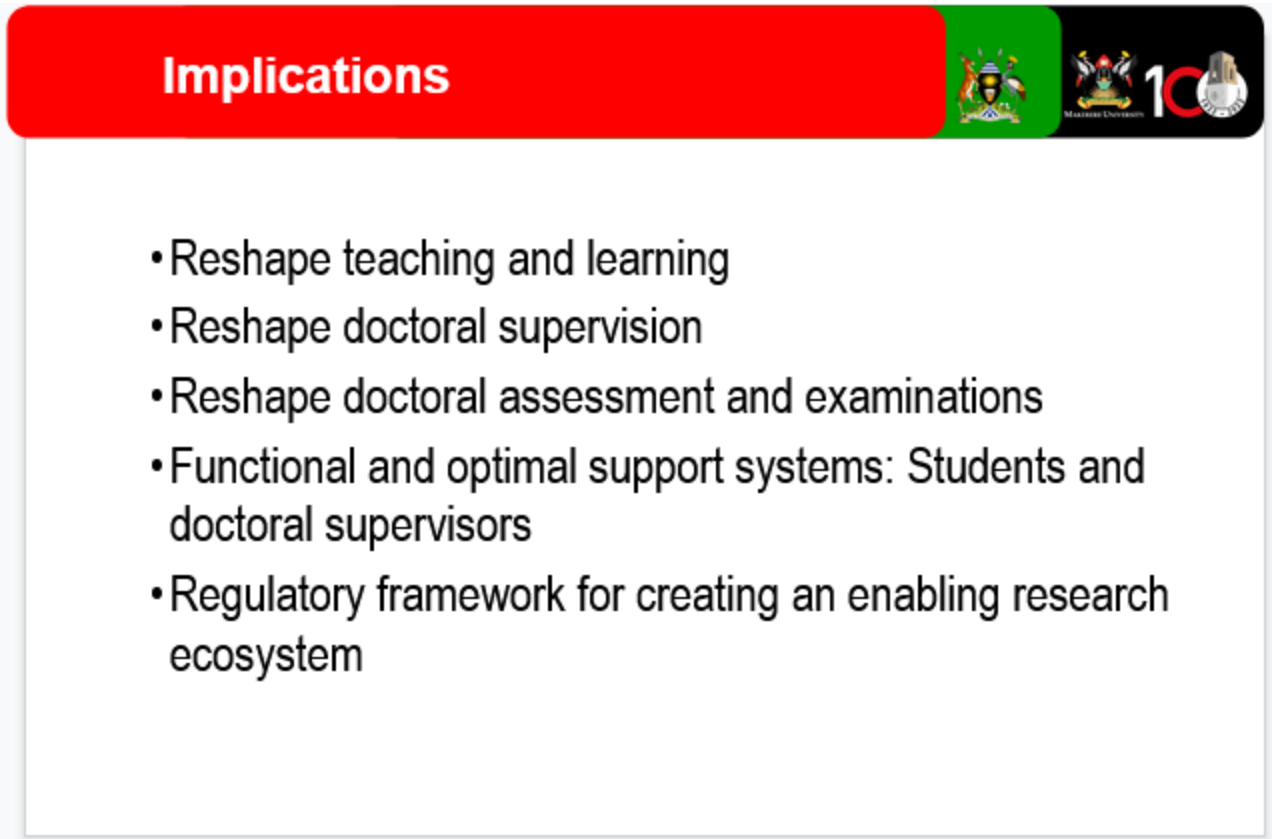
- **Internationalization and democratization of higher education-** global market with flows of international students, faculty and graduates; international competition for best talent; need for unification of standards and benchmarking vs parallel trends towards diversity (Bao et al., 2018; Rudakov & Yudkevich, 2021).

ODeL Window of Opportunities- Not a Panacea



ODeL and the Future of Doctoral Education

- Reimaging doctoral program design: Blended doctoral programs
- Revisit structuring of doctoral programs e.g. split-site programs
- Design and integration of e-learning systems for doctoral education
- Harnessing affordances of ODeL for inter-multi-transdisciplinary research training
- Training and development of doctoral supervisors-national strategy
- Dedicated funding for doctoral education and training-national strategy



Thank You For Listening

Presentation: Enabling research and education collaborations

ENABLING RESEARCH AND EDUCATION COLLABORATIONS

STEVEN SEBBALE

ASST EXECUTIVE SECRETARY / HEAD OF STI POLICY DEVELOPMENT AND COORDINATION

UGANDA NATIONAL COUNCIL FOR SCIENCE AND TECHNOLOGY

A presentation at the 4th Annual Higher Education Conference,
15th September 2022

BACKGROUND

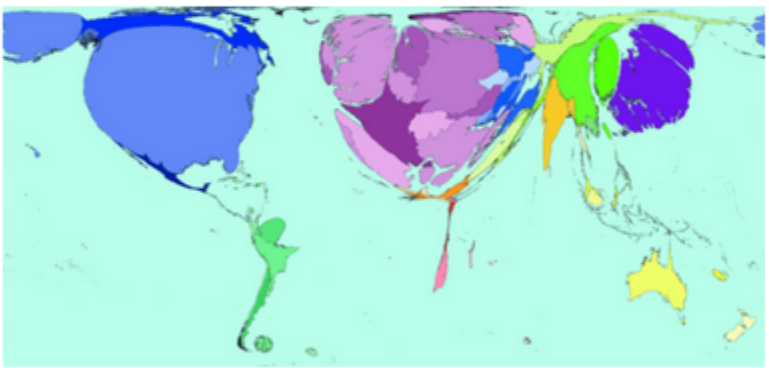
- Established in 1990 as a Government of Uganda agency by an Act of Parliament (CAP 209 of the Laws of Uganda).
- Currently under Minister of Science, Technology and Innovation – Office of the President [STI-OP].
- Advises government on relevant emerging STI issues and regulates the conduct of research in Uganda.

UNCST'S NEW FUNCTIONS

- Regulating all aspects of Science, Technology and Innovation
- Translating STI policies into regulations and standards to guide the operations of the entire STI system
- Monitoring and evaluation of the STI activities and compliance to STI regulations
- Homing of science professional institutions and continuing professional development

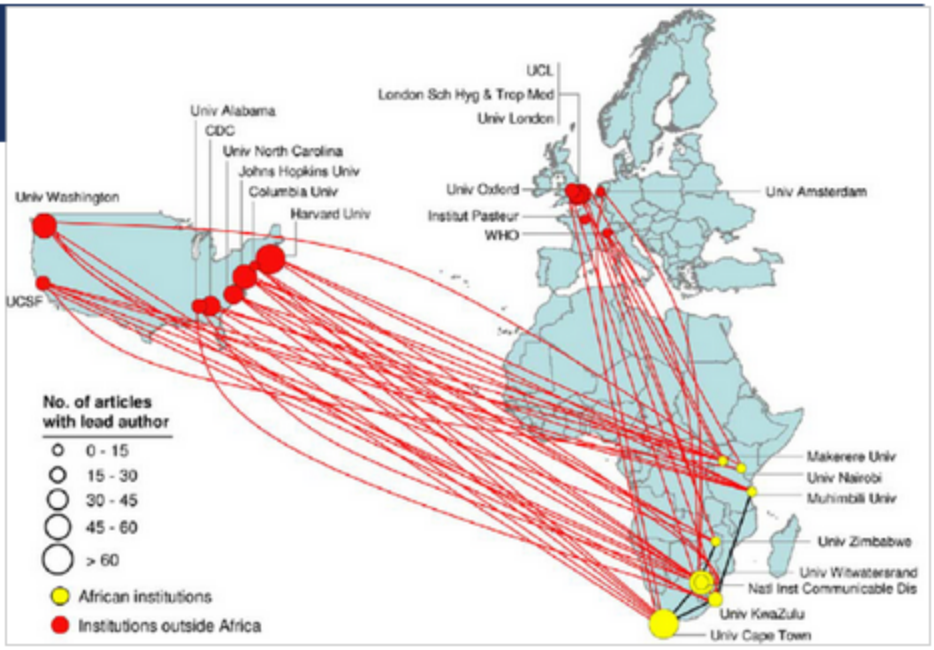
AFRICA IN THE GLOBAL RESEARCH COMMUNITY

- Knowledge production in Africa is on the rise!!!
- Africa produced 508,102 scientific publications between 2001-18, compared to the rest of the world produced 6,688,920 publications (7.6%)
- Almost a third (30%) of the World Research in Tropical Medicine



AFRICA'S RESEARCH COLLABORATION LANDSCAPE

- Research production in Africa is under-documented;
- Limited South-South Collaboration (especially between African researchers)



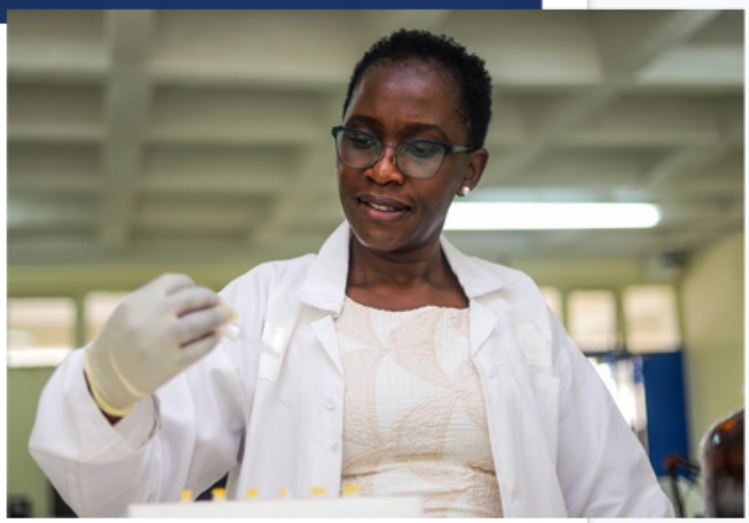
SNAPSHOT OF EDUCATION IN UGANDA

	Per Million People
Primary Students	177,778
Secondary Students	28,889
Students	222,222
University Students	4,000
PhD Holders	44
HE Students	6,667

- Currently there are less than 50 researchers per one million people in Uganda (increased from 27.8 in 2014)
- Compare with more than 7,000 researchers per one million people in Sweden and over 8,000 per one million people in Israel.
- Raising this low base requires addressing several institutional, logistical and Infrastructural obstacles at various levels throughout the Ugandan Educational system.
- Building an inclusive education system➔ Open and Distance e-Learning (ODeL)

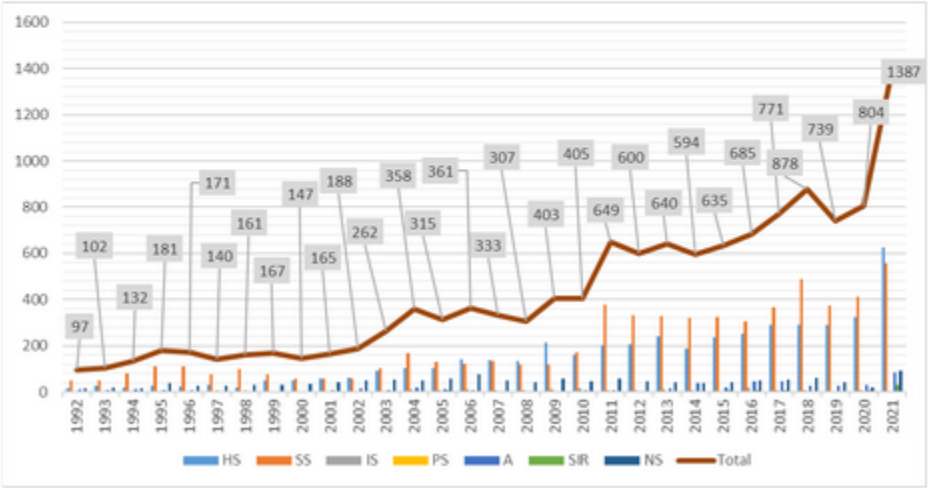
UGANDA'S RESEARCH LANDSCAPE

- Ugandan research is highly cited and internationally visible, although overall productivity remains low.
- 84% of published papers are produced as a result of international collaborations, and citations level are above the G20 average (The G20 average is 10.2%).
- Ugandan research papers were among the 10% most-cited papers in their respective fields of research between 2008 and 2012, (Scimago, 2019)
- Over 80% of papers in Uganda resulted from international collaborations in 2018, a figure which has been increasing steadily since 2007 (IRC primarily conducted with RIs in the USA, UK, Kenya, South Africa and Sweden)
- However, Gross Expenditure on Research and Development (0.17%) [Less than 1% of GDP for African States]
- Average duration period for research is approximately 19 months with a mean budget of $207,791.3); PI has an average age of 49 years.
- Total R&D personnel per 1000 total employment (FTE) at 0.05
- Research in Higher Education is mainly foreign funded (64.5%); HERD as % of GDP at 0.1
- Few STEI Graduates (2 out of 5 graduates) [Key Target NDPIII is to increase S&T graduates to 3:5]



RESEARCH MANAGEMENT AND COMPLIANCE

- Increase in the research registered and approved (over 10 fold!)
- >3,500 researchers have since received training on research compliance, IP, research ethics, good research practice etc.
- Increase in the number of Accredited Research Ethics Committees (RECs) across universities and research institutes
- Built a culture of ethical research practice through its Annual Research Ethics Conferences: Membership increased from 370 to 1800 participants (scientists, REC members and research regulators)
- **Lessons for upselling ODeL to universities and other HE actors**



HIGHER EDUCATION AND RESEARCH

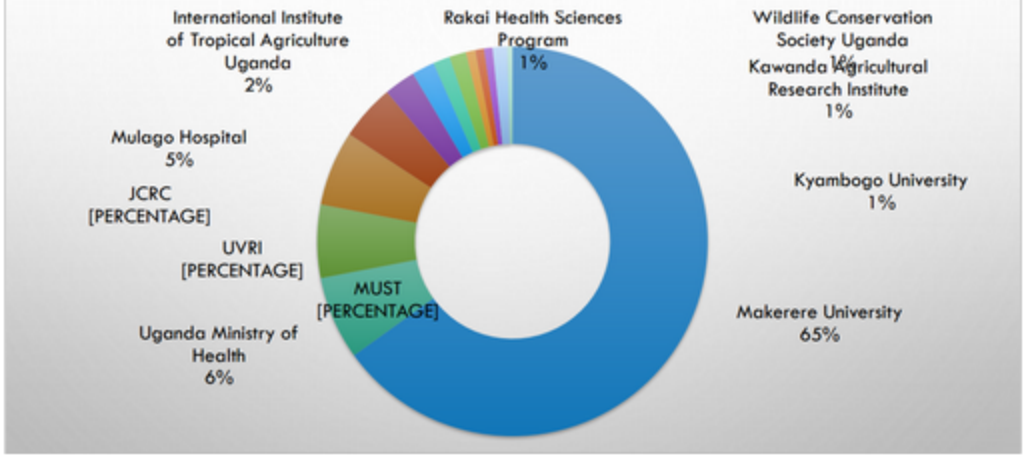
- Universities in Uganda grew from 3 in 1989 (Miserere, IUIU, MUST) to 53 in 2022.
- Enrolment in universities in Uganda has grown from about 10,000 students in 1990 to more than 200 000 students in 2022.
- HEI Mandates (Teaching, **Research** and Community Service)
- Over 75% of PhD training is financed by donors
- Weak research infrastructure across Uganda's HEIs
- Limited participation of the private sector in HE research
- **Building strong networks between universities can enhance research funding potential ➔Open and Distance e-Learning (ODeL)**

UGANDA'S RESEARCH POTENTIAL

- Uganda is ranked among the top 10 high-producing countries in science in SSA (Others are South Africa, Nigeria, Kenya, Ethiopia and Tanzania)
- The number of PhDs graduating in a year increased from 30 in 2009 to 100 in 2021
- More PhDs are required to support the higher education system
- Uganda had about 1000 active PhDs in 2010 (UNCST, 2012) and this has increased to 2200 in 2020 (amidst a requirement for over10 000 PhDs
- The current enrolment at universities requires more than 3600 PhDs
- The current PhD deficit is over 8,000 PhDs; This deficit cannot be covered with the current production rate of about 100 PhDs per year
- Building a robust research production system ➔ Open and Distance e-Learning (ODeL)

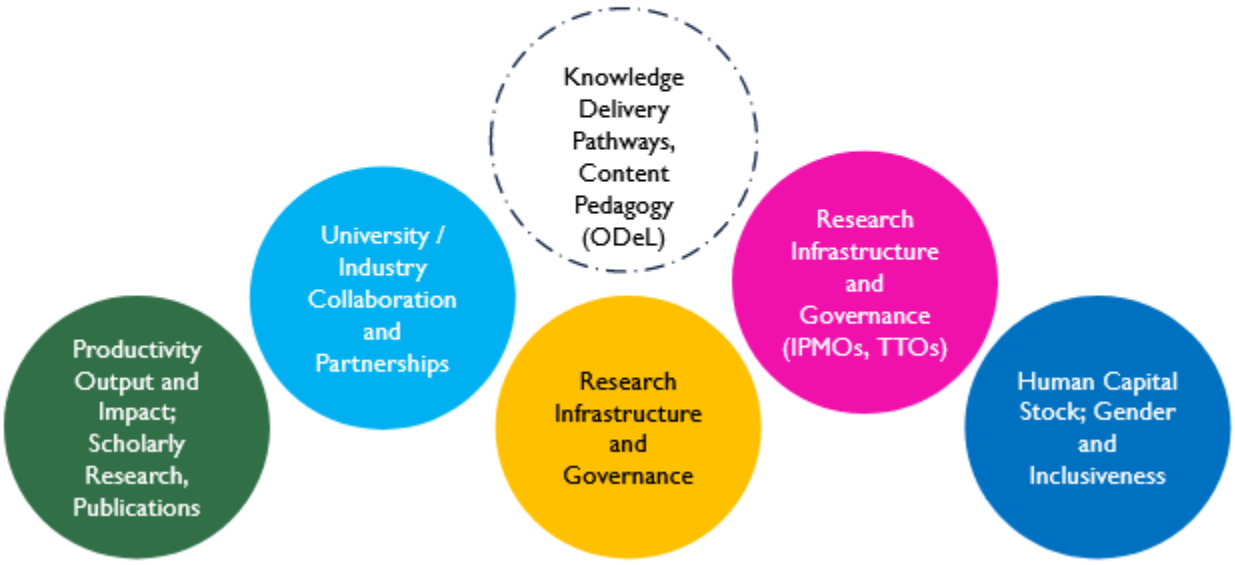
Click to add title

WHO DOES RESEARCH IN UGANDA

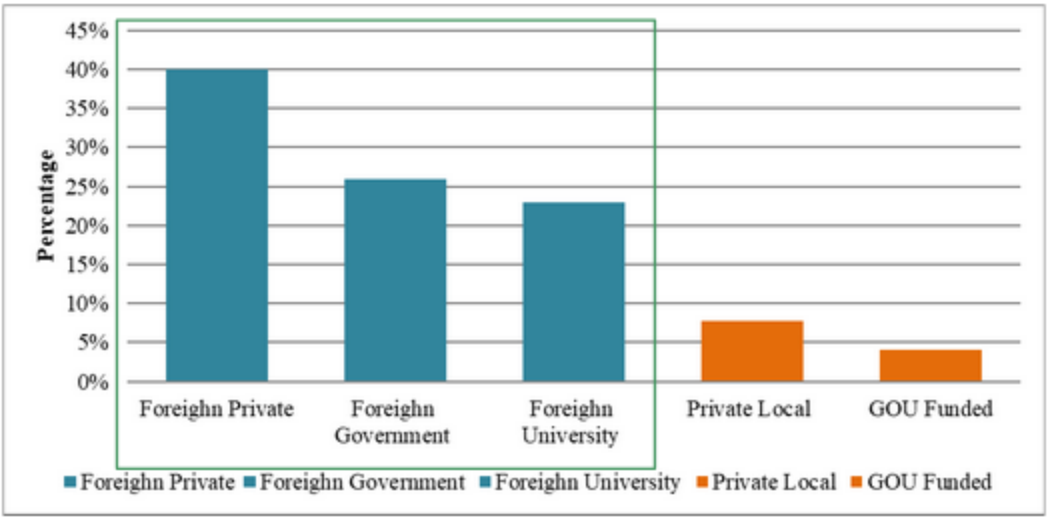


- Strengthening research quality assurance
- Linking users and producers of research
- Establishing regulatory environment for research
- Promote the online collaboration
- Building strong networks between universities ➔ Open and Distance e-Learning (ODeL)

EMERGING CONVERSATIONS IN RESEARCH COLLABORATION

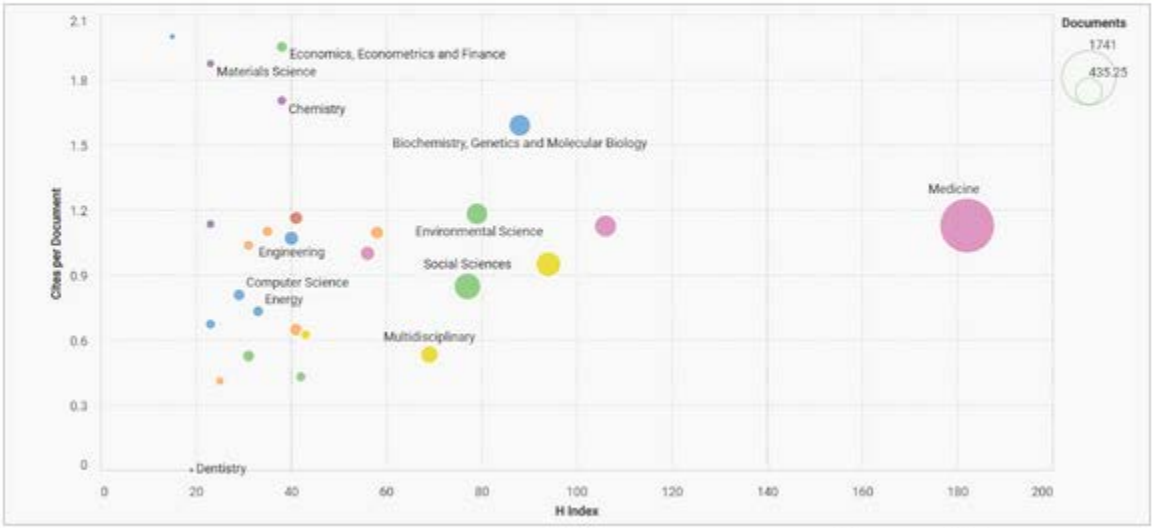


CHALLENGES: COLLABORATIVE RESEARCH FUNDING HAS A FOREIGN FACE



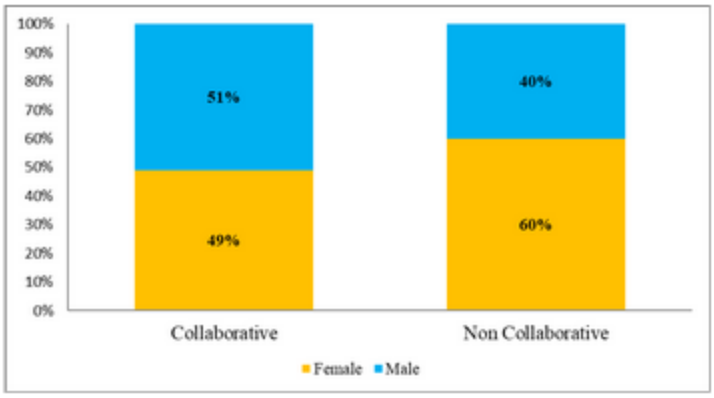
- Foreign private companies fund 40% of the research studies
- Local private entities fund only up to 7% of research studies conducted in Uganda.
- Government funds less than 5% of collaborative research

CHALLENGES: OVER CONCENTRATION IN FIELDS OF RESEARCH



Source: SCImago, 2022

CHALLENGES: GENDER AND INCLUSIVITY

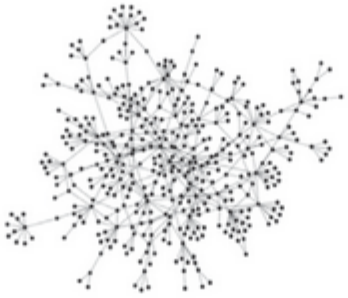


ODEL: A CATALYST FOR RESEARCH COLLABORATION

Institute A (with isolated researchers)

≠

Institute B (with connected researchers)



Source: Huang (2020)

- Complex and bounder-less challenges (COVID-19, migration, hunger)
- Some HEIs are incentivising researchers to take part in international collaborative projects.
- Funding agencies also favors collaborative research because it can draw diverse expertise, promote creativity and innovation and therefore lead to scientific breakthroughs

UNCST – TRAILBLAZER OF ODEL

In 2006, UNCST supported Kyambogo University to establish ODEL in Higher Education under the Millennium Science Initiative (MSI) – Project titled: *"Upgrading the training and teaching of Mathematics and Science by incorporating ICT through Open Distance and eLearning in Uganda"*

Knowledge Products: Published Research Products on ODEL

Outreach: Set up five upcountry Centres where some activities were expected to be run and managed. (Muni NTC; Gulu PTC; Mukuzu PTC; Bushenyi PTC; and Canon Apollo PTC)

Capacity Building: Training of Modules Writers; Moodle Learning Management System; Equipment support

Click to add text

UNCST MOOC PLATFORM

- UNCST working closely with INASP (Author AID) to develop a MOOC Platform to provide learning resources that can be used across Universities (e.g. on how to register research, how to compete for research grants; on research ethics management and the set up of RECs etc.)
- Will require support of NCHE for developing curriculum and content; capacity building (including instructional design)

UNCST AND RESEARCH COLLABORATION

- UNCST is participating in the Science Granting Councils Initiative (SGCI) that is linking Ugandan researchers with counterparts in 15 other Sub-Saharan African Countries; UNCST is building capacities of other Research Councils on Online Grants Management (Malawi, B.Faso, Namibia, Zimbabwe, Senegal, Zambia)
- UNCST is working closely with critical partners, including the National Council for Higher Education (NCHE) and the Research Education Network of Uganda (RENU); Consortium of University Libraries (CUUL); Vice Chancellors Forum etc. to strengthen knowledge brokerage
- UNCST has also established a Gender Equity in Research Alliance (GERA) across the different regions to strengthen capacity and mainstreaming of gender across HEIs; and to strengthen research collaboration
- In line with the emerging global Open Science agenda, UNCST is also developing the National Research Repository of Uganda which should facilitate access to research products for all HEIs (reduce research duplication, promote Citizen Science, Increase knowledge co-production)
- UNCST is also developing an TechnoMart that should bridge Industry and Academia and faciltate partnerships and capacity building across this continuum for value addition and employment

SGCI IOSRS

Gender Equity in Research Alliance

NRU

O.R. TAMBO AFRICA RESEARCH CHAIRS INITIATIVE

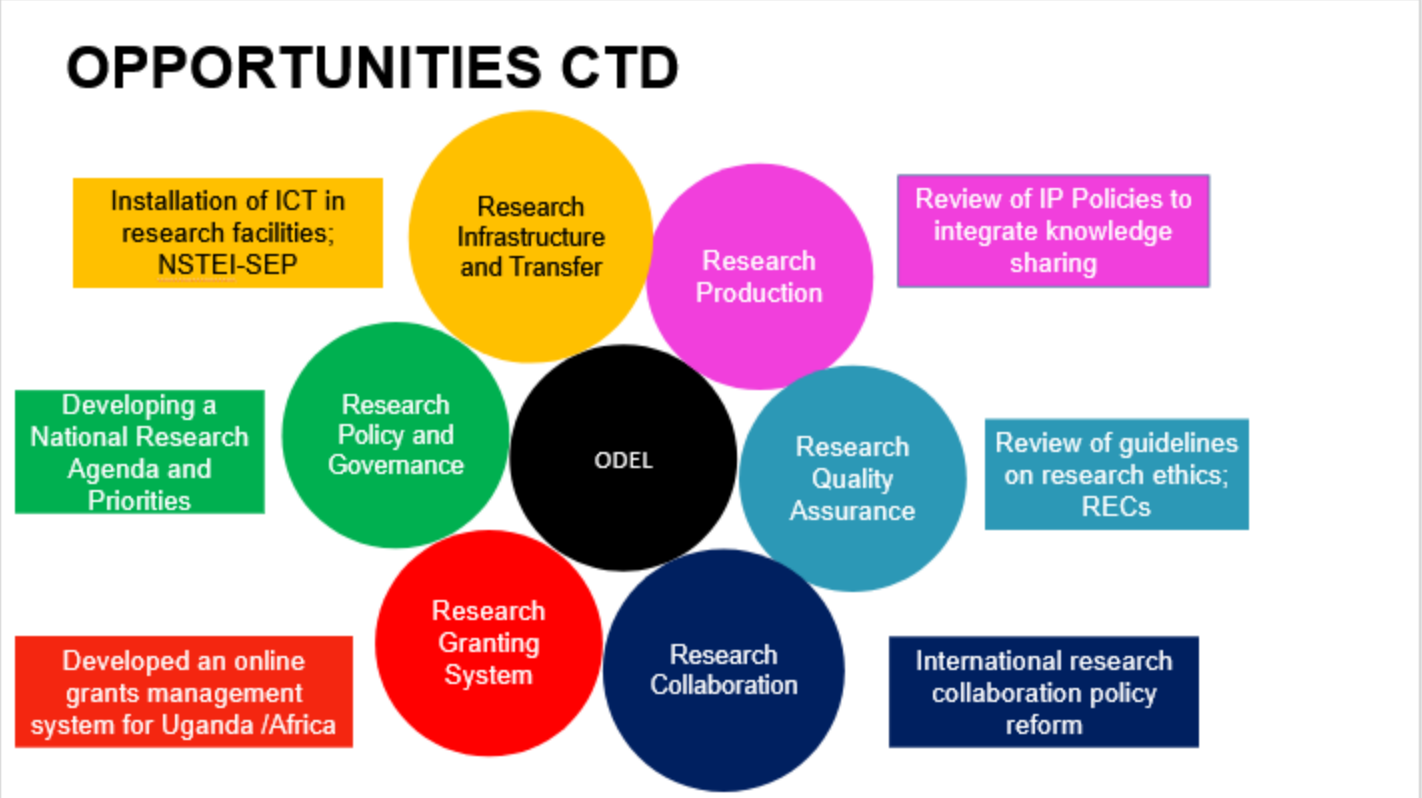
THE UNCST TECHNOMART

ODEL: OPPORTUNITIES FOR RESEARCH COLLABORATION AND NETWORKING

- Research productivity goes hand-in-hand with research ethics
- Only 08 Universities (Makerere, MUST, Clarke International, Gulu, KIU, UCU, Busitema, Bishop Stuart) have Research Ethics Committees
- Develop and/or review research guidelines to support digital learning and collaboration

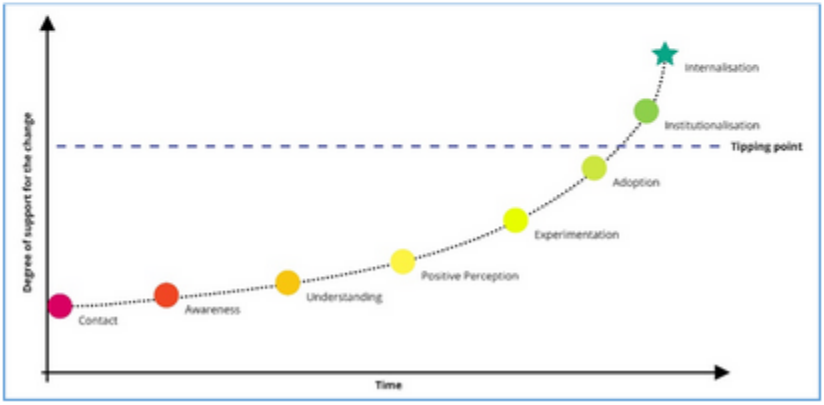
- Establishment of robust Intellectual Property Regimes and Policies to integrate new modes of research collaboration
- Infrastructure: Technology Transfer Offices
- Support linkages with Industry

- Enhance participation in collaborative research grants
- Build capacity for joint research
- Encourage multi and trans disciplinary research



CONCLUSION

- ODEL was a reactive reform that enabled Uganda's HEI to overcome the shock of the pandemic on learning ➔ UNCST similarly adopted to this by developing Guidelines for conducting COVID – research [there is need to adapt to ODEL as a "new normal" in the delivery of higher education]
- ODEL presents new opportunities for research collaboration (both north-south and south-south); there is need to go beyond ODEL as a tool for teaching towards making it a tool for collaborative research
- ODEL calls for regulatory reforms (policies, guidelines and other regulatory tools); UNCST will be reviewing guidelines to reflect the emerging imperatives around e.g. research ethics that are likely to emerge from this new norm
- ODEL is strengthening partnerships within Uganda's HEI ecosystem – UNCST/NCHE ; UNCST/RENU ; UNCST/Private Sector ; UNCST and individual universities (particularly in the set-up of RECs)
- Strong ODEL outcomes demand for infrastructure (Hard and Soft) to promote its integration; sustained lobbying for funding towards this is vital
- ODEL for research inclusion: (Geographical inclusion, Gender inclusion, Technology Inclusion, Institutional inclusion)



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- Huang, J.H (2020), Building Research Collaboration Networks - An Interpersonal Perspective for Research Capacity Building, in *The Journal of Research Administration, (45)2*
- *Wray, K. B. (2006). Scientic authorship in the age of collaborative research. Studies In History and Philosophy of Science, 37(3), 505-514.*
- *UNCST (2011),*

THANK YOU

Key highlights from the 4th Annual Higher Education Conference 2022

1) Need for harmonization of implementation strategies for streamlining ODeL in Higher Education Institutions in the following areas:
   i. Internet /connectivity that adequately support teaching, learning and research
   ii. tooling and retooling teachers and Learners
   iii. Content development and access
   iv. Research and innovation Networking methods and resources
2) Address Funding issue in ODeL infrastructure and facilities
3) There is need for funding Higher Education Institutions to enhance ODeL system. Similarly, HEIs need to prioritize ODeL in their budgets.
4) Need for stakeholder's collaborations among the service providers, institutions, industry and the private sector to promote ODeL.
5) Consider inclusivity of people with disability in ODeL
6) Strengthen the regulatory monitoring of ODeL by NCHE.
7) Institutions should establish positions of infrastructural design and capacity building of faulty in ODeL infrastructural design and pedagogy.

Conference strategies for the follow up

a) Dissemination of conference report to stake holders
b) Stakeholders are requested to provide their feedback and input towards the achievements of the conference objective.
c) Development of the action plan for the streamlined implementation of ODeL in higher institutions of learning.

Action Plan for the highlights of the 4th Annual Higher Education Conference 2022.

The conference goal was to define and prepare a roadmap that responds to the context based current obstacles limiting the implementation of ODeL in higher education.

The conference was aimed at achieving the following objectives;

i. Identifying strategies for the preparation of an ODeL roadmap based on different higher education contexts in Uganda

ii. Exploring content development and pedagogical skills for adoption based on experiences and practices for e-learning

iii. Stimulating ideas and information exchange among scholars, researchers and the public on e-learning mode of delivery

HEIs are requested to provide feedback on the Action points and time frame columns in the table

S/n	Focus area	Issues	Action point	Time frame
1	Streamlining the implementation of ODeL in higher education institutions	i. Internet /connectivity that adequately support teaching, learning and research ii. Tooling and retooling both teachers and Learners iii. Content development and access iv. Research and innovation Networking methods and resources v. High Taxes on Data affecting connectivity thus curtailing E-Learning	a). NCHE to review Q/A framework b). Develop a strategy for ICT Mainstreaming in HEI c). Strengthen the regulatory monitoring of ODeL by NCHE **d).** NCHE to negotiate the Government the need to harmonize and support both privateand public higher education institution on data activation **e**). Encourage institutions to subscribe to RENU	**24 months**
2	ODeL Funding	i. Funding in ODeL infrastructure and facilities is inadequate ii. Funding Higher Education Institutions to enhance ODeL system is low	a). NCHE to work with education committee of parliament, Agencies, service providers and the private sector to develop collaborations that link HEIs, private sector, and	

		ii. Integration of ICT into HE delivery and administration remain low with just over 30 % of HE able to acquire, use and maintain ICT for learning.	government systems and agencies to promote ODeL b). NCHE to develop HE capacity building framework for ICT skills and infrastructure: c). Establish current ICT capacity for teaching learning and Research and Innovation d). Review/develop minimum standards and requirement, aligned with NCHE capacity indicators e). NCHE encourages HEIs to allocate part of their budget to ICT human resource and infrastracture	
3	Inclusivity Of people with disability in ODeL	No/less inclusivity with people with disability in ODeL	a). NCHE to review minimum standards and include requirement for people with disability in ODeL system b). Develop concept paper to address access obstacles including tuition funding and facilities for PWDs, gender and other marginalized groups	**24 months**

CLOSURE:

The conference was closed by Permanent Secretary, Ministry of Education and Sports.

END OF CONFERENCE

Appendix 1

NATIONAL COUNCIL FOR HIGHER EDUCATION

THE 4th ANNUAL HIGHER EDUCATION CONFERENCE, 14th & 15th SEPTEMBER 2022

Theme: Enhancement of teaching, learning and assessment with Open and Distance e-Learning (ODeL) in Higher Education

CONFERENCE PROGRAMME

DAY ONE: 14th SEPTEMBER 2022		
8:00 – 9.00:	Arrival and Registration	NCHE
SESSION ONE: OPENING CEREMONY		
Master of Ceremony: Mr. Solomon Serwanjja		
CHAIRPERSON: Mr. Arthur Babu Muguzi, Director Finance, Planning and Administration, NCHE		
9.05 -9.10	**Prayer**	Rev. Canon Dr. Alex M. Kagume Deputy Executive Director, NCHE
	Anthems	National Anthem East African Anthem
9.10-9.20	**Introductory Remarks**	Professor Mary J.N. Okwakol Executive Director, NCHE
9.20-9.30	**Welcome Remarks**	Professor Eli Katunguka Rwakishaya Chairperson of Council, NCHE

9:30-10:00	**Opening address**	Hon. Janet K. Museveni First Lady and Minister of Education and Sports
SESSION TWO: Experiences and lessons for learners and teachers in e-learning		
CHAIRPERSON: Hon. John Ntamuhiira Twesigye Chair Education Committee of Parliament		
10:00 -10:30	**KEYNOTE PRESENTATION** **Enhancement of teaching, learning and assessment with ODeL in higher education**	Ms. Azra Nazeem Senior Fellow of the Higher Education Academy UK. Director, Blended and Digital Learning Office of the Provost, The Aga Khan University South-Central Asia, East Africa & London, UK
10:30-11:00: HEALTH BREAK		
11:00-11:15	**ODeL experiences and lessons for Higher education**	▪ Prof. Aaron Mushengyezi Vice Chancellor Uganda Christian University
11:15-11:30	**ODeL experiences and lessons for STEM**	▪ Dr. John Okuonzi Director ICT Kyambogo University
11:30-11:45	**Observations for Crisis health education and training after Covid-19**	▪ Dr. Bonaventure Ahaisibwe Managing Director, Impact and Innovation, *Seed Global Health*
11:45-12:00	**ODeL experiences and lessons for researchers**	▪ Mr. Gerald Zihembire Ahabwe Chairperson PhD Forum Makerere University
12:00-12:15	**ODeL experiences and lessons for**	▪ Dr. Henry Kasumba

	lecturers/TVET	Mathematics Department, Makerere University
12:15 -12:30	**ODeL experiences and lessons for learners/Disability**	▪ Mr. Mike Katongole Students' Representative NCHE Council
12:30 -13.00	**DISCUSSION: Questions and Answers**	**PLENARY**
13:00 -14:00	**LUNCH BREAK**	
SESSION 3: ICT Skills Development, Regulatory Policy framework and strategies		
CHAIRPERSON: Eng. Dr. Dorothy Okello, Chairperson UCC Board, Dean School of Engineering, Makerere University		
14:00 -14:45	**PANEL DISCUSSION: Moderator - Dr. Dorothy Okello**	
	Topic: **Does the current Higher Education policy and regulatory framework meet the requirements for Higher Education digital transformation?**	▪ Ms. Irene Kaggwa Sewankambo Chief Executive Officer, UCC ▪ Prof Mike Kuria, Deputy Executive Secretary IUCEA ▪ Prof. George L Openjuru, Vice Chancellor, Gulu University ▪ Dr. Jane Egau Okou, Director, HTVET, Ministry of Education & Sports ▪ Dr. Pius Achanga, Director QAA, NCHE ▪ Mr. Derrick Etuusa, Solutions

		Director, Huawei Technologies Uganda Co. Ltd
	DISCUSSION: Questions and Answers	**PLENARY**
SESSION 4: Higher education online delivery, learning and assessment		
CHAIRPERSON: Dr. Lawrence Muganga, Vice Chancellor Victoria University		
14:45-15:05	**Delivery assessment mode for e-learning by institutions managers**	▪ Prof. Jude Lubega, Vice Chancellor Nkumba University
15:05- 15:25	**ODEL in Technical Vocational Education and Training (TVET)**	▪ Mr. Ivan Kimpanga Mukibi, Luigi Giussani Institute
15:25- 15:45	**ODEL mainstreaming in Higher Education Assessment Report**	▪ Dr. Pius Achanga, Director Quality Assurance NCHE
15:45-16:05	**DISCUSSION: Question and Answer**	**PLENARY**
16:05	**Closure and Cocktail**	
	END OF DAY ONE	

DAY TWO: 15th SEPTEMBER 2022		
8:00 – 9.00	**Arrival, Registration of Participants**	**NCHE**
SESSION ONE: Content Development and Research		
Master of Ceremony: Mr. Solomon Serwanjja		
CHAIRPERSON: Dr. Nora Mulira, Director ICT, Research and Innovation, NCHE		
9:00 –9:10	**Welcome remarks**	Professor Mary J. N Okwakol Executive Director NCHE
9.10 -9.45	**KEYNOTE PRESENTATION** **Content Development and Research networking to enhance ODeL for Higher Education in Africa**	Professor Paul Prinsloo Research Professor in Open Distance Learning, Department of Business Management, University of South Africa (UNISA)
	Discussion - Q and A Session	
SESSION TWO: Content development and pedagogical skills under the new norm		
CHAIRPERSON: Dr. Jenipher Twebaze Musoke, Chairperson ICT Research and Innovation Committee, NCHE		

9:45 -10:05	**ODeL Content development and pedagogical delivery skills**	Assoc. Prof. Birevu Muyinda School of Education Makerere University
10:05 -10:35	**HEALTH BREAK**	
10.35 -11.55	**ICT skills developments for both learners and teachers**	Prof. Jessica N. Aguti, Chairperson ODeL Steering Committee, Busitema University
11:55 -12:15	**ODeL in STEM practical teaching, learning and assessment**	Dr. John O. O. Omagino Executive Director, Uganda Heart Institute
12:15-13:00	**DISCUSSION: Q & A**	**PLENARY**
13:00 -14:00	**LUNCH BREAK**	
SESSION 3: Development of online research networks and resources for Higher Education		
CHAIRPERSON: Dr. Maxwell Otim Onapa, FUNAS Director Science, Research and Innovation		
14:00-14:20	**The art of creative research networking**	▪ Mr. Nicholas Mbonimpa Chief Executive Officer, RENU
14:20-14:40	**Online research and lessons from SIDA-SAREC project**	▪ Prof. Buyinza Mukadasi, Director, Directorate of Research and Graduate Training, Makerere University

14:40-15:00	**Research award strategies**	▪ Mr. Emmanuel Ikwara, Lira University ▪ Mr. Steven Kakooza, Lira University
15:00-15:20	**Innovative strategies for PhD Training**	▪ Dr. Irene Etomaru, Principal Investigator, Innovative Doctoral training in Uganda Project CEDIPE Makerere University
15:20-15:40	**Enabling research and education collaborations**	▪ Dr. Martin Ongol, Executive Secretary, UNCST
15:40-16:00	**Discussion: Question and answer**	**PLENARY**
CLOSING CEREMONY		
16.00- 16:10	**Remarks**	▪ Prof. May J. N. Okwakol, Executive Director, NCHE.
16:15 -16:30	**Remarks**	▪ Prof. Eli Katunguka Rwakishaya, Chairperson of Council, NCHE
16:20 – 16:50	**Official Closure**	▪ Ms. Ketty Lamaro, Permanent Secretary, Ministry of Education and Sports
END OF CONFERENCE 2022		

Appendix 2

MEMBERS OF THE ORGANIZING COMMITTEE

1. Dr. Nora Mulira	Conference overall coordinator
2. Dr. Pius Achanga	Member
3. Mr. Martin Osikei	Member
4. Mr. Cosmas Muhumuza	Conference manager
5. Mr. Arthur Babu Muguzi	Member
6. Mr. George Ebine	Member
7. Mr. Dennis Omvia	Member
8. Mr. Tito Kayigwa	Member
9. Dr. Kyatuha Ovia	Member
10. Ms. Naomi Turyahabwa	Secretary
11. Mr. Saul Waigolo	Member
12. Ms. Jane Nabwire	Member
13. Mr. David Ssebulime	Member
14. Mr. Mike Wanyama	Member

CONFERENCE SPONSORS

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