

General Consultation Report Form¹

Under the UNESCO World Higher Education Conference ([WHEC2022](#))
[Section for Higher Education](#) | Division for Education 2030

Basic information

Date of consultation	08/12/2021		
Location of consultation	Saint-Louis, Senegal, Hybrid mode (10 onsite and 2 online).		
Hosting organisation(s) (include webpage if available)	African Center of Excellence in Mathematics, IT and ICT (ACE MITIC) – University Gaston Berger of Senegal: https://www.ceamitic.sn/		
Name and email address of key contact person	Dr. Maissa M'Baye – Coordinator of ACE MITIC.		
Complete name, title, and affiliation of moderator(s)	Dr. Gaoussou Camara, coordinator of ACE Partner's Digital science and technology network (DSTN), Alioune Diop University, Senegal: https://ace-partner.org/dstn/en/		
Language of consultation	English, French.		
Time spent in consultation (minutes)	90 minutes.		
Number of participants	12		
Participant profiles (please, briefly describe the composition of the group)	<p>The Digital Science and Technology Network (DSTN) organized in Saint Louis, Senegal from December 6th to 10th, 2021 its First Symposium open to the private and socio-economic sectors on the theme of "Digital science and technology for sustainable development in Africa". This symposium brought together the African Centers of Excellence (ACE) in digital sciences and technologies and their partners, with industry, socio-economic actors and international collaborators, to share experience, practices and innovation in digital science and technology for Africa's sustainable development.</p> <p>The panel gathered representatives of ACEs in Senegal, Benin, Ivory Coast, Guinea and Nigeria, their international partners in France (IRD and Inria), Ghana (AAU) and USA (World Bank) and a representative of the student body. Participants were professors, pedagogic programme managers, ICT engineers, etc.</p>		
Countries represented by participants	Benin, Ivory Coast, France, Ghana, Guinea, Nigeria, USA, Senegal.		
Stakeholder groups (please mark with an "x" as appropriate)	<input checked="" type="checkbox"/> Professors/ Researchers	<input checked="" type="checkbox"/> Students/Youth	<input checked="" type="checkbox"/> Higher education managers/authorities
	<input type="checkbox"/> NGOs/civil society	<input checked="" type="checkbox"/> International organisations	<input type="checkbox"/> Policy makers/government
			<input type="checkbox"/> Private sector
			<input type="checkbox"/> Others (please, specify): research organizations.

Which theme did you choose for this consultation?

¹ This template includes some elements used by the consultation developed by [The Futures of Education](#) initiative.

- Version: 14/03/2022**
- | | |
|--|---|
| <input type="checkbox"/> Theme 1: Impact of COVID-19 on higher education | <input type="checkbox"/> Theme 7: Financing higher education |
| <input type="checkbox"/> Theme 2: Higher education and the SDGs | <input type="checkbox"/> Theme 8: Data and knowledge production |
| <input type="checkbox"/> Theme 3: Inclusion in higher education | <input type="checkbox"/> Theme 9: International cooperation to enhance synergies |
| <input type="checkbox"/> Theme 4: Quality and relevance of programmes | <input type="checkbox"/> Theme 10: The futures of higher education |
| <input type="checkbox"/> Theme 5: Academic mobility in higher education | <input checked="" type="checkbox"/> Other (please, specify): Digital transformation of Higher Education in West Africa. |
| <input type="checkbox"/> Theme 6: Higher education governance | |

Synthesis of contributions

Kindly provide a summary, synthesising and reflecting the ideas provided by all participants. There is no need to identify participants. Consultation reports should not exceed 1,200 **words**, including the responses to the three questions outlined below (consider a balance of approximately 400 words per response). If necessary, add attachments. Remember that question 1 is general, but questions 2 and 3 should refer to the specific theme you have chosen (see list in **Annex 1**).

Question 1: *What should be the present and future role of higher education to favour the wellbeing of humans and sustainability of societies?*

Digital tools and services are transforming African societies and economies. Despite connectivity issues, innovative services emerge and thus create opportunities. The digital transformation in higher education is representative of these changes. It represents both opportunities and challenges for West Africa Universities. Online courses and the digitization of student/teacher services existed in Benin, Ivory Coast, Guinea, Nigeria and Senegal before the Covid-19 crisis, but the latter has imposed a new digital paradigm on universities in these countries.

Beyond the dissemination of knowledge, digitalization allows the design and implementation of new innovative pedagogical practices, promoting student autonomy and adapting the learning process to each individual.

West African universities must therefore tackle issues related to digitalization of higher education in order to transform these innovations into mechanisms for economic and social development and inclusion.

Facing societies' transformations and aspirations, higher education bears a heavy present and future responsibility to guarantee the well-being of humans and the sustainability of societies. Therefore, education must more than ever:

- Provide adequate training programmes to the demand and evolution of the labour market;
- Foster research that serves society by responding to the challenges of sustainable development;
- Promote the spirit and culture of innovation to encourage entrepreneurship among students and the commercialization of research results among teachers.

Question 2: What are the main **challenges/problems/gaps** in relation to the Digital transformation of Higher Education in West Africa?

Although booming, digital access in Africa still faces a deficit in Internet coverage and quality. The Internet remains expensive, many *white areas* exist and the quality of the bandwidth is much lower than required.

The Covid-19 pandemic has reinforced our dependence on digital tools to provide day-to-day university services. The Internet is no longer a luxury but a service of primary necessity, sometimes increasing inequalities of use among academic populations. This was glaring when setting up online courses in universities during lockdown periods. Inequalities in student Internet access and the lack of training for teachers to deliver digital courses have sometimes led to the outright cessation of courses and exams.

West African universities are thus trying to develop the tools best suited to the contexts. The development of online training tools and structures responsible for ensuring their creation/dissemination (e.g. Virtual Universities, Institute for Open and Distance Learning in physical universities) represents an opportunity in the way of managing massive increase of student inflow in certain countries. However, digital education is not only a matter of online courses but must ensure access to digital libraries, technologies and scientific databases to professors and students around the world. Thanks to digitalization, the open mode of publication is developing and many low-income countries can access it. Meanwhile, the omnipresence of digital tools in scientific research widens inequalities in international scientific production. The collection and valorization of research data require heavy and costly digital infrastructures for African universities.

Partly due to cultural and language differences, adopting and adapting digital technologies remain a challenge. Digitalization has often encouraged a certain form of plagiarism and fraud in intellectual property. The question of the credit associated with a 100% online degree also remains open. In addition, it is important to conceive the academic world as a provider and vector of social experiences. A 100% online academic program suffers from a lack of social ties reported by many students during the lockdown. We also witness a high dropout rate in digital training programs and platforms. It is therefore essential to understand the development of digital tools in education as tools at the service of the academic and social experience of the university population and not as an end in itself.

Question 3: What needs to **change** or be **created** to face these challenges **within** and/or **outside** of higher education institutions?

1. Massive investment in African digital infrastructure

Massive investment by States in digital infrastructure and services is necessary to improve access for university populations to the most basic digital services. Digital investment plans

must be set up or strengthened, organized around public/private partnerships. We also propose to develop national and regional clouds to improve the process of reducing latency, securing data and creating independent and autonomous data centers. We propose to create and support national and regional research networks (NREN and RREN) in order to ensure universal access to digital services in higher education.

Digital education must take place from an early age. The democratization of digital access, particularly via the Internet, IoT and smartphones, goes hand in hand with the offer of new services to all segments of the population. Thus, academic and political actors must support the sustainable use of these new tools for all users in order to make them aware of opportunities and associated risks.

2. A new model of multidisciplinary and multi-stakeholder collaboration

Synergy between academia and the socio-economic world is essential. Digital tools and the associated transformation should help us to move training and research from the university to society and, conversely, to bring society's problems to academics. In some countries, initiatives exist but do not fully address this need. For example, challenges remain in creating curricula that are aligned with the needs of certain industry sectors. Multidisciplinary and multi-stakeholder co-constructed programs will thus be able to propose concrete innovations responding to the major challenges of sustainable development in Africa.

Regional networks for education, research, innovation and resource sharing require regional policies and more solidarity. In South-North collaborations, one can expect capacity building, digitized educational content sharing, technology transfer, etc. On this basis, we propose various activities to support the digital transition in African universities:

- Development of mixed tools (digital, face-to-face): workshops, training, hackathons... to explore the challenges and opportunities of high education digital transformation;
- Sharing of skills and good practices in the use of digital technology in higher education via a network of professors, students, engineers, techno-pedagogical experts, and administrative managers;
- Paradigm shift in digital education pedagogy, blended learning/flipped learning, outcome-based learning, game-based learning;
- Teaching and learning entrepreneurship, improving the curriculum to take into account local context, values and adaptation possibilities;
- Optimizing the use of social media/digital tools for student engagement.

3. A regulatory framework adapted to African digital challenges

Multi-level regulations must accompany the digital transformation. At the institutional level, it is necessary to adopt a digital policy in all training curricula, research, as well as in

the student experience. It is also necessary to implement data protection and privacy policies, effective firewall systems, anomaly and intrusion detection systems, etc. At the national level, it is the responsibility of the government to set up student training programs and encourage digital education as early as possible and in all training paths. At the regional/continental level, efforts should focus on a comprehensive database of vulnerabilities, strengthened data protection laws, regional sovereignty protection regulations and the need for rapid response teams to combat unethical practices.

4. African digital transformation as a tool for scientific excellence

In practice, scientific programs must include digital tools in their core approach. Mandatory continuing education for researchers, cyber-experts, training in new communication technologies, especially in social media, cybercrime and data privacy should be encouraged. The extension of digital science to other disciplines, such as agriculture, health, must be considered within the framework of multidisciplinary study programs. In areas such as telemedicine, e-learning, cyberdefence for example, ethics and regulation are mandatory. The mediation between digital and environmental issues must also be taken into account.

Which Sustainable Development Goals (SDGs) were particularly emphasised during this consultation?

- | | | |
|---|---|--|
| <input type="checkbox"/> Goal 1: No poverty | <input checked="" type="checkbox"/> Goal 8: Decent work and economic growth | <input type="checkbox"/> Goal 14: Life below water |
| <input type="checkbox"/> Goal 2: Zero hunger | | <input type="checkbox"/> Goal 15: Life on land |
| <input type="checkbox"/> Goal 3: Good health and well-being | <input type="checkbox"/> Goal 9: Industry, innovation, and infrastructure | <input checked="" type="checkbox"/> Goal 16: Peace and justice strong institutions |
| <input checked="" type="checkbox"/> Goal 4: Quality education | <input checked="" type="checkbox"/> Goal 10: Reduced inequality | <input checked="" type="checkbox"/> Goal 17: Partnerships to achieve the goals |
| <input checked="" type="checkbox"/> Goal 5: Gender equality | <input type="checkbox"/> Goal 11: Sustainable cities and communities | |
| <input type="checkbox"/> Goal 6: Clean water and sanitation | <input type="checkbox"/> Goal 12: Responsible consumption and production | |
| <input type="checkbox"/> Goal 7: Affordable and clean energy | <input type="checkbox"/> Goal 13: Climate action | |

You may provide additional feedback...

Are there any other issues that should be considered in relation to higher education challenges and options in your community, your region, the world?

Is there any other comment you wish to share with UNESCO or the organisers of the WHEC2022?

List of participants

[Please, include the moderator (s)]

Mr. / Mrs .	First name	Last name	Title/organisation	Nationality	Email address (if the participant wishes to receive information about the WHEC2022)	Indicate with a “NO” if the participant DOES NOT want to be publicly identified as a participant in this consultation.
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