UNESCO's Work in ICT in Education Policy

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United Nations Educational, Scientific and Cultural Organization

Sustainable Development Goal 4 (SDG4) for Education 2030: Vision and Targets

"Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all."

Access, inclusion and relevance

4.a Learning Environments

4.b Scholarships

4.c Teachers and Educators

4.2 Pre-primary

4.1 Primary & Secondary

4.3 TVET & HE

4. 5 Gender Equality

4.7 ESD & Global Citizenship

4.6 Youth Literacy

4.4 Skills for Work

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Leveraging ICT to achieve SDGs: Policy implications and lessons learned

Sector-wide or inter-sector ICT in education policies are essential to :

1. enable governments to play leading role and set up necessary regulatory frameworks
2. ensure the context-specific planning and provision
3. align multi-layer and multi-perspective policies to respond to the opportunities and challenges of emerging technology
4. bridge formal and non-formal education to enable a lifelong learning pathway
5. affirm the centrality of teachers' capacity and digitally-relevant pedagogies, and to continuously build institutional capacities
6. coordinate public agencies and leverage strategic multi-stakeholder partnerships
7. enhance the continuity and the scaling-up of effective programmes
8. incentivize innovative practices and the innovative digital solutions
9. remove/bridge artificial barriers between ICT platforms of different sectors
10. build rigorous evaluation and reinforce evidence base

UNESCO's Tools and capacity building activities

ICT in Education Policy Platform

- UNESCO ICT in Education Toolkit (www.ictinedtoolkit.org)
- A global ICT in Education Policy Platform in cooperation with Intel: www.ictedupolicy.org
- 30+ national workshops and 10+ sub-regional workshop; directly trained 1000+ policymakers of more than 50 countries.

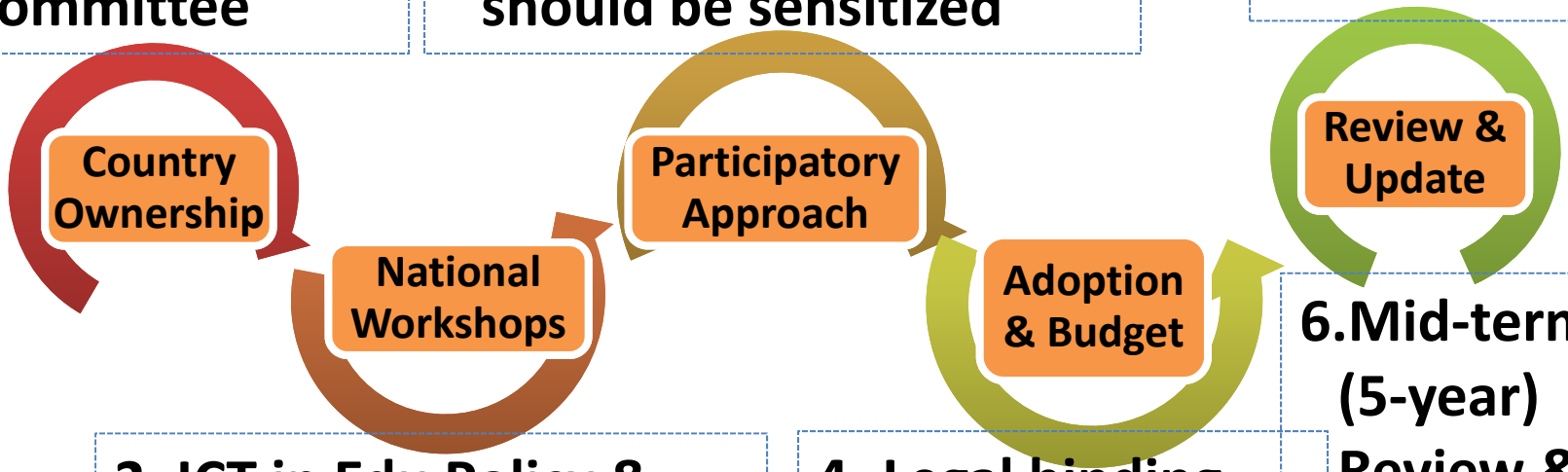
UNESCO supports member states to develop ICT in education policies and master plans

- International/regional policy debates→ Qingdao Declaration (201) and 2017 Qingdao Statement
- Workshops + technical advices

1.Natonal ICT in education agency or committee

3. All schools & teachers, partners & stakeholders should be sensitized

5.Monitoring & evaluation



2. ICT in Edu Policy & master plan aligned with national priorities

4. Legal binding endorsement & budget allocation

6.Mid-term (5-year) Review & update

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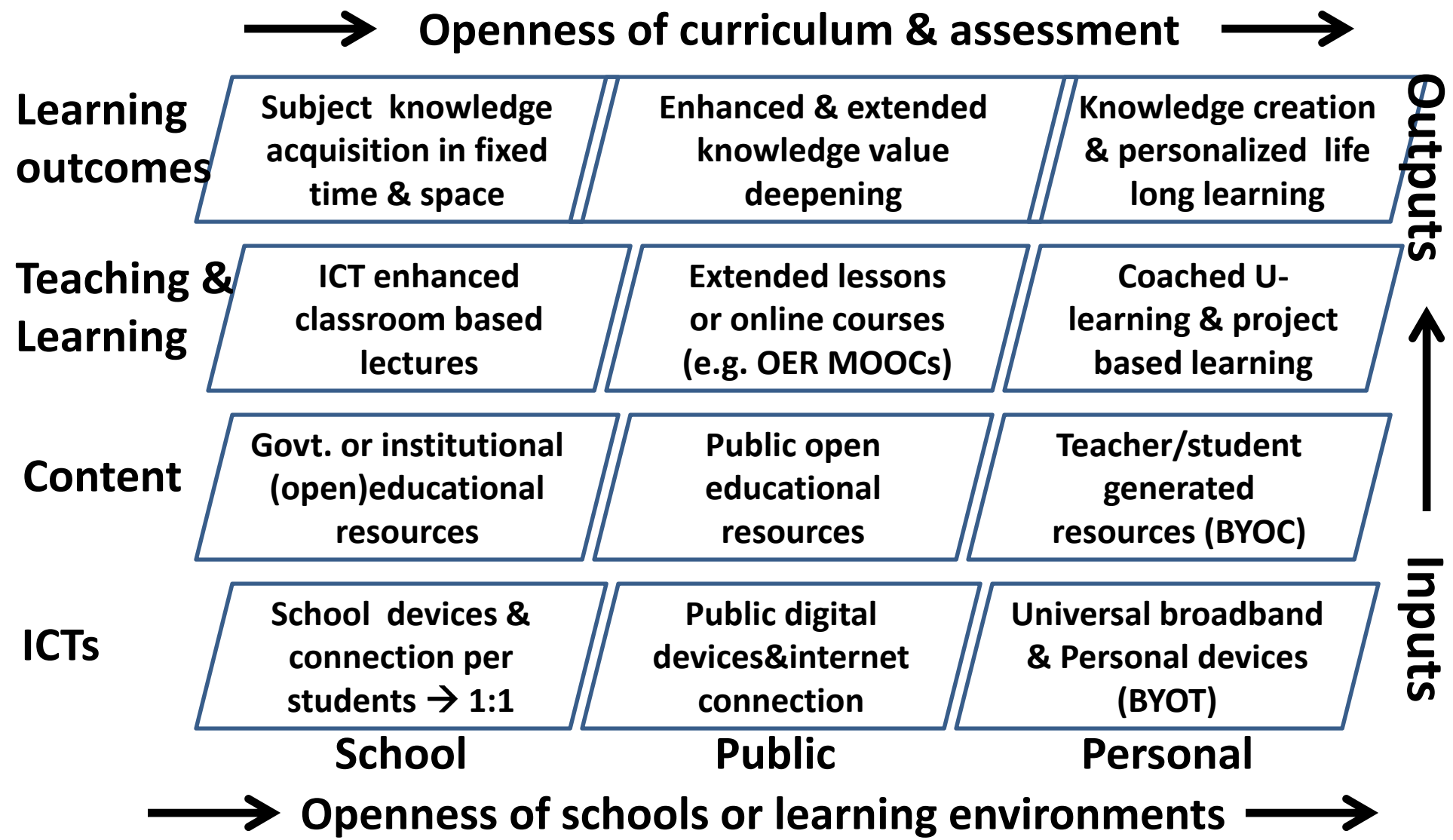
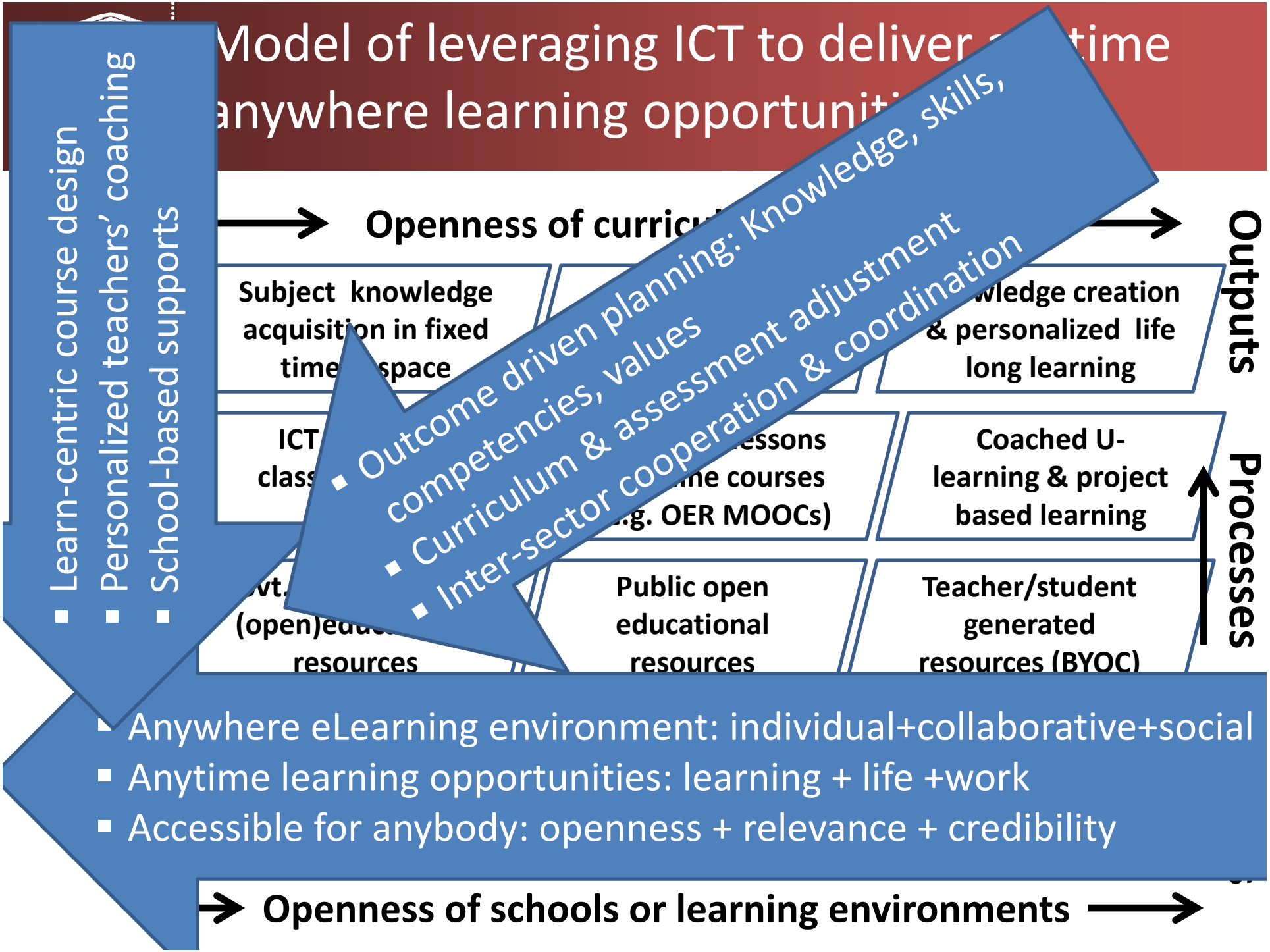
A Multi-Entry Approach to the Development of ICT in Education Policy

(Fengchun Miao, f.miao@unesco.org)




Model of leveraging ICT to deliver
anywhere learning opportuni
time
Openness of curric
Outputs
Processes
Subject knowledge acquisition in fixed time space
wledge creation & personalized life long learning
ICT
class
essons
ne courses
g. OER MOOCs)
Coached U-learning & project based learning
vt.
(open)edu
resources
Public open educational resources
Teacher/student generated resources (BYOC)
Outcome driven planning: Knowledge, skills, competencies, values
Curriculum & assessment adjustment
Inter-sector cooperation & coordination
Learn-centric course design
Personalized teachers' coaching
School-based supports
Anywhere eLearning environment: individual+collaborative+social
Anytime learning opportunities: learning + life +work
Accessible for anybody: openness + relevance + credibility
Openness of schools or learning environments

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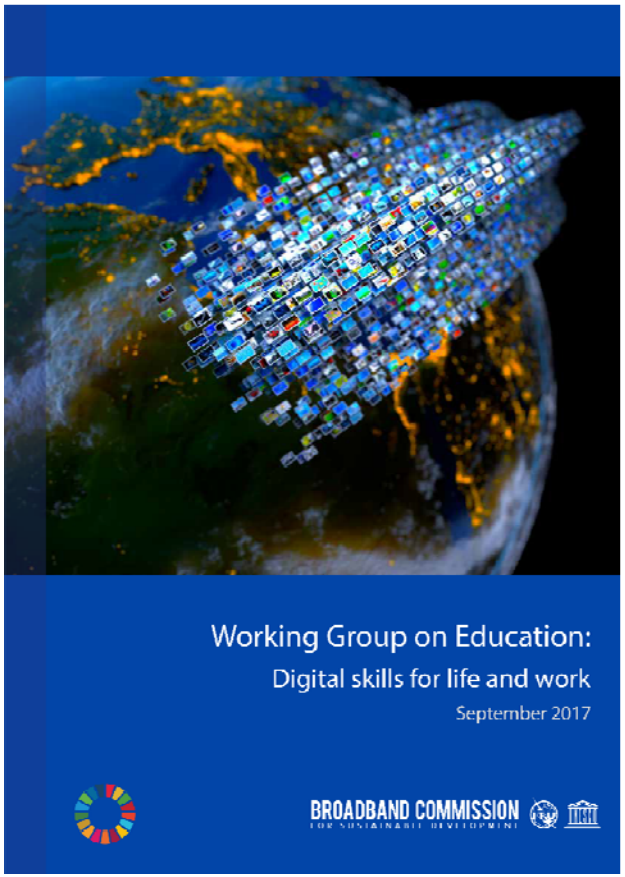
Inclusive access and equitable digital skills



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Policy recommendations

Ensure effective government support and multistakeholder cooperation

- Establish accountable agencies within governments to lead the development, regulation and implementation of national policies/strategies and master plans.

- Under the competence of the accountable governmental agencies, develop strategies to broker, expand and improve multistakeholder partnerships that facilitate the policy implementation.

- Incentivize IT firms, internet service providers and other private sector organizations to support inclusive and equitable use of ICT and the digital skills development.

- Develop and endorse policies to promote Free and Open Source Software (FOSS) and to openly license the digital resources produced with public funds, as called for in the Paris OER Declaration and Ljubljana OER Action Plan 2017

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Policy recommendations

Ensure inclusion, equity and gender equality

- Formulate education policies that promote and monitor the inclusion of access to digital resources and digital skills development for disadvantaged groups irrespective of gender, age, race or disability.
- Encourage non-formal providers to deliver programmes for out-of-school children, youth and adults, especially illiterate or unemployed adults through flexible face-to-face programmes in well established community spaces (e.g. community centres, libraries) and through affordable digital technology, including mobile phones.
- Prioritize public investment and incentivize the private sector to support gender equality in the use of ICT and the digital skills development with a particular focus on promoting girls' and women's participation, achievement and continuation in STEM studies and careers.

Source: Global Education Monitoring Report, 2017-2018, UNESCO

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Policy recommendations

Promote quality and innovative provision

- Set up collaborative taskforce teams of education institutions, IT industries and academic institutes to enhance the development and provision of curricula and programmes.

- Set up quality assurance and accreditation mechanisms to monitor the quality of digital resources and programmes and facilitate the recognition of skills across levels of studies, education providers and possibly across borders.

- Make digital skills a key component of teacher training, with reference to UNESCO's ICT Competency Framework for Teachers (2011). Guide the review and updating of programmes to enable teachers to benefit from digital technologies and improve the digital literacy of students.

- Develop collaborative capacity building mechanisms between education institutions and IT industries.

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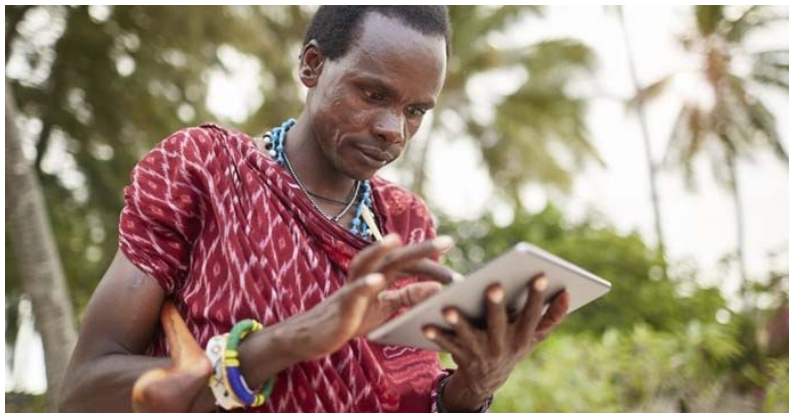
Policy recommendations

Develop appropriate measurement and monitoring strategies

- Support national statistics agencies and other agencies in regularly collecting disaggregated data, including through individual assessments, to facilitate a more robust and comprehensive understanding of digital skill divides.
- Explore the possibilities of aggregated usage of automatically generated data on the use of digital platforms and services as a means of mapping patterns of use of ICT in education and digital competencies and skills.
- Include, where relevant, questions in annual household surveys to gather self-reported information about individuals' digital skill levels and digital skill needs. Also, encourage countries to share collected data with relevant international organizations, including UNESCO and ITU, to facilitate global and regional analysis.



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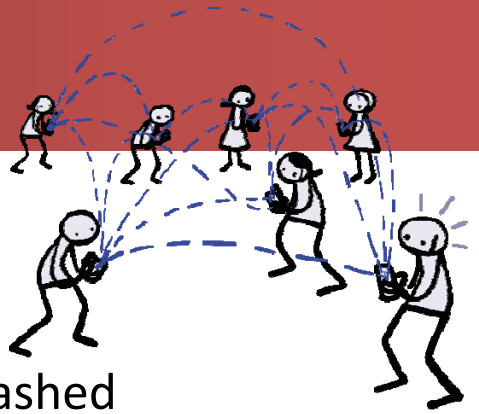
Policy coherence



- Curriculum: What to learn, how to learn, and where to learn will determine the extent to which potentials of ICTs are unleashed
- Assessment for students: the content and the methodology of the assessment of students' learning outcome will determine what and how students learning → adjust learning assessment in response to needs of life and work in a digital era
- Schools or other education institutions: whether performance evaluation of schools and school principals will determine whether school leadership will provide school-wide support
- Teachers: Teachers' performance evaluation vs. Expected teachers' pedagogical use of ICT
- Teachers education: Pre-service teachers preparation vs. in-service teacher training and professional development

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Trends

- Inter-operational ICT platforms and data-based systems for education
- Ensure digital literacy including AI literacy for all, and develop programming and coding skills
- System-wide adoption of frontier technology:

  -AI-ready policy makers

  -AI literacy for all

  -AI innovations in youth

  -AI applications for education:

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Human right-based and SDGs-driven approach to the use of AI in education

Needs → application scenarios → right, values, and skills

	Physical World (Usage scenes)	**Interface (Devices)**	**Digital World (Apps/Platforms)**
Realisticism	**Adaptive Learning & Assessment** smart content & learning	**Mobile/Wearable Devices** Powered by AI	Big Data & machine learning
Optimism	**Adaptive Social Caring** (Social AI)	**Natural Interfaces** with connected sensors	New AI algorithm
Futurism	**New Generation of Learning?**	**Neo Interfaces**	Strong/Wide AI
Pessimism Or Ethical Concerns	**Human right & equality** (Misled behaviours; AI property concentration)	**Cybersecurity & Bio-Security** (Robotics arms)	**Data Security & Privacy** (Leaking or mis-use)

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Thank you…

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Session 2: Policy implications for achieving the SDGs in a digital world

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