



IIOE Competency Framework for the Higher Education Workforce (IIOE-CFHEW)

Suggestions on IIOE-CFHEW from the pre-consultation meetings on 15 July 2021
&
Executive summary of IIOE-CFHEW

UNESCO-ICHEI, July, 2021



1. Context

The IIOE (International Institute of Online Education) was jointly established by UNESCO-ICHEI with 11 leading Higher Education Institutions (HEIs) in Africa and Asia, 9 global EdTech enterprises, and 4 HEIs in China in December 2019 under the context of Covid-19 pandemic and large-scale institutional closure.

In 2020, IIOE had released the IIOE ICT Competency Framework 1.0, which outlines and evaluates HE teachers' all-around ICT teaching and professional skills for Online/ Blended Teaching & Learning (OBTL) practices. In the past year, the IIOE ICT Competency Framework 1.0 has supported HEI teachers in developing countries to improve digital literacy, especially in coping with pandemic pedagogies.

The IIOE ICT Competency Framework 1.0 is closely associated to the Quality Assurance Framework 1.0 launched in the same period. The QA Framework has been an integral part of the IIOE OBTL toolkit for HE teachers and institutions, in assessing their capacities and preparedness for digital transformation.

This year, the IIOE Competency Framework for the Higher Education Workforce (IIOE-CFHEW) has been developed into an upgraded 2.0 version, in accelerating partner universities' digital transformation on a broader scale. In July 2021, the 2021 UNESCO-ICHEI conducted the Asia-Pacific Mid-Year Consultation Meeting, inviting leading experts in HE management & research to discuss the suitability of the IIOE-CFHEW and how it could stimulate staffs' ICT-enabled professional development according to local institutional development needs.

IIOE is dedicated to building capacity of partner universities for inclusive and equitable quality higher education and lifelong learning for all. Following the work, the IIOE-CFHEW outlines a more comprehensive series of future-oriented ICT competencies available to all higher education workforces (HEW), including the faculty group, leaders & administrators, and support staff at all different levels.



2. Introduction

IIOE-CFHEW: Upskilling the Higher Education Workforce (HEW) Capturing Digital Opportunities

Higher Education is on the verge of digital transformation, by which the progression has been accelerated by the profound, long-lasting impacts of the broad-based implementation of Information Communications Technology (ICT) in the post-epidemic world. The Higher Education Workforce (HEW), which constitutes different job functions at all levels, including the faculty, administration, and support staff, will all need to thrive in their professional development trajectories in ensuring a future-ready higher education ecosystem for sustainable development.

The IIOE Competency Framework for the Higher Education Workforce (IIOE-CFHEW) demonstrates innovative ICT competencies that proactively respond to current and future challenges for a digital higher education ecosystem.

- As a roadmap, the IIOE-CFHEW provides references for all HEW regarding the convergence of diverse topics in ICT-enabled teaching & learning, ICT infrastructural support, staff professional development, organisational changes, university-industry collaboration, and talent cultivation in preparation for a digital future of HEIs.
- As a guideline, the IIOE-CFHEW is closely associated with the IIOE Quality Assurance (QA) Framework. The two frameworks have been complementary tools included in the IIOE Online/ Blended Teaching and Learning (OBTL) capacity building system, in ensuring that HEIs can implement OBTL practices effectively to realise quality, equitable higher education with ICT resources.
- As a toolkit, the IIOE-CFHEW engages staff at all levels working in the higher education to apply and enhance targeted ICT competencies flexibly in their respective work fields. The interconnected ICT competencies accord with the IIOE Online Course System, enabling HE professionals in developing countries to practice digital literacy progressively through active, personalised training programmes.

3. The IIOE-CFHEW

The IIOE-CFHEW presents a landscape for the future-ready ICT-enabled Higher Education, and a diverse set of knowledge & skills required by such transition (Fig. 1).

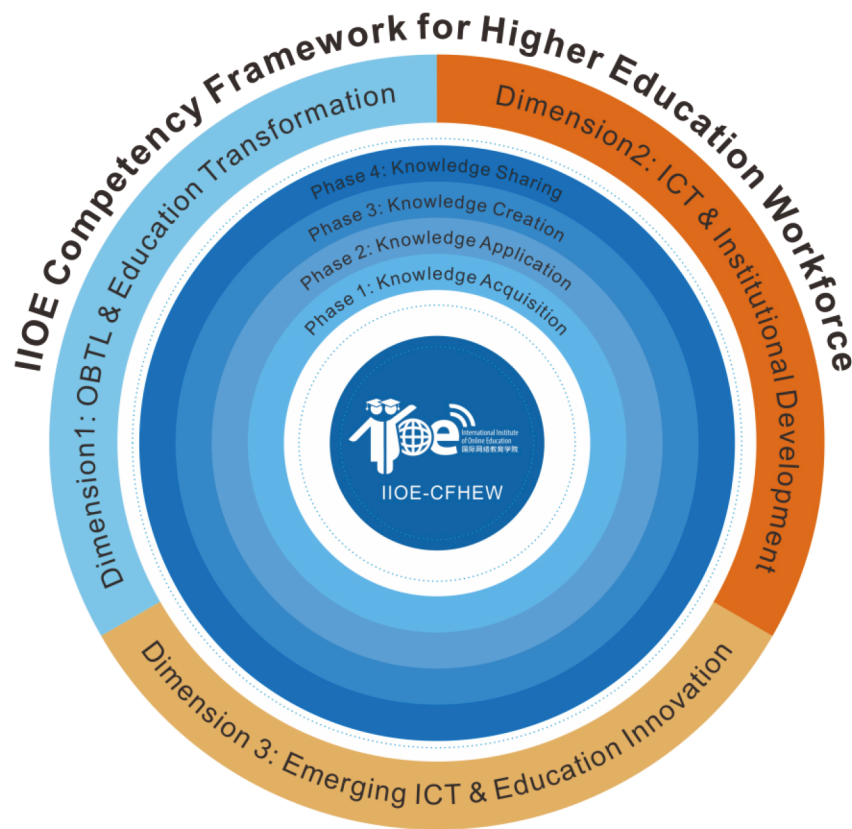


Fig 1. The IIOE-CFHEW

IIOE identifies *Three Core Dimensions* for Teaching & Professional Development considering current and future uses of ICT in Higher Education:

- Dimension 1: OBTL & Education Transformation
- Dimension 2: Higher Education Administration & Management
- Dimension 3: Smart ICT & Education Innovation

IIOE also examines *Four Key Phases* in providing a pathway for HEI professionals to advance their mastery of ICT-related competencies. From '*Knowledge Acquisition*', '*Knowledge Application*', '*Knowledge Creation*', to '*Knowledge Sharing*', this framework aims to cultivate a growth mindset among HEW for their professional development trajectories, under the backdrop of higher education digital transformation.

4. The Four Competency Development Phases

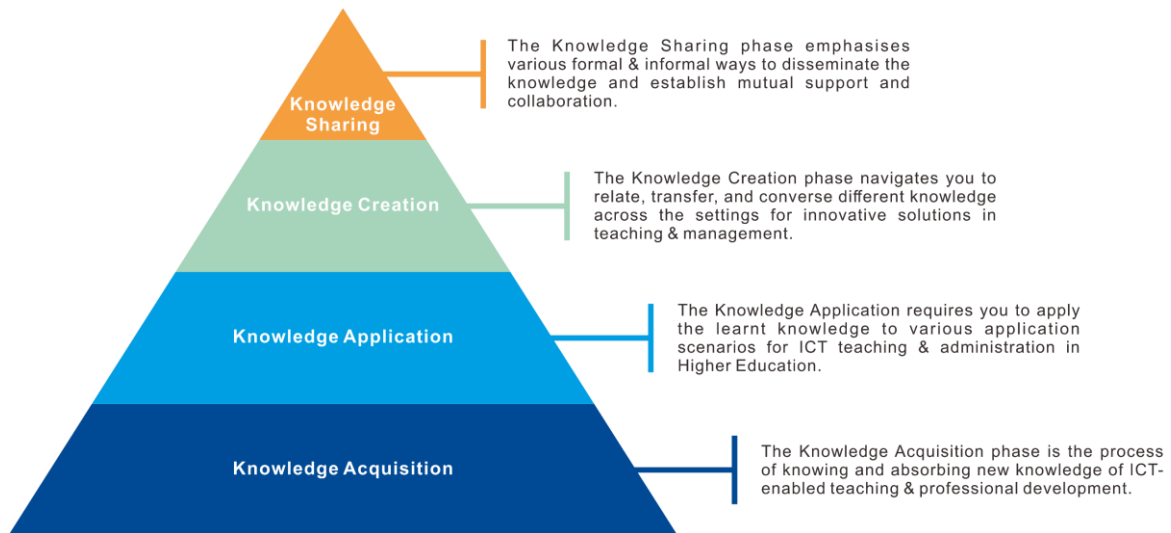


Fig 2. Four Phases of the IIOE – CFHEW

There are Four Phases identified in the IIOE-CFHEW (Fig. 2):

- Knowledge Acquisition
- Knowledge Application
- Knowledge Creation
- Knowledge Sharing

At the **Knowledge Acquisition** level, the goal is to facilitate HEI professionals in exploring multiple education theories, philosophies, and methodologies, which will serve as the foundation for ICT-enabled teaching & professional development.

At the **Knowledge Application** level, the goal is to support HEI professionals to develop a more comprehensive understanding of existing knowledge following a 'learning by doing' approach, solving complex, high-priority problems in various teaching & management scenarios to improve digital competency.

At the **Knowledge Creation** level, the goal is to enable HEI professionals to generate new knowledge in designing, developing education programmes, and to initiate innovative solutions throughout the ICT-enabled Higher Education Ecosystem and beyond.

At the **Knowledge Sharing** level, the goal is to encourage HEI professionals to establish networks, create opportunities and platforms, in facilitating ICT-enabled teacher development through mutual support, collaboration, and exchange of expertise in various domains.

5. Embedding ICT in the Competency Architectures

A Roadmap, a Guideline, a Toolkit - for the ICT-enabled Professional Development of the Higher Education Workforce (HEW)

The cross-related multiple dimensions of the IIOE-CFHEW address current and long-term dynamics of ICT-enabled teacher professional development as a holistic approach, providing a toolkit, a guideline, and a roadmap for institutional leaders, education practitioners and leading stakeholders in creating, accelerating, and transforming the future Higher Education Workforce (HEW).

• Mastering OBTL Practices in initiating digital transformation

The first dimension for **OBTL & Education Transformation** focuses on Online/ Blended Teaching and Learning (OBTL) practices. It depicts a route map for university teachers and curriculum supervisors in incorporating ICT into the existing syllabus, such as innovative curriculum designs, Teaching & Learning (T&L) approaches, ICT-enabled assessments, and the reflective feedback mechanisms in improving OBTL practices (Fig. 3).



Fig 3. Key Competencies for OBTL & Education Transformation

- From OBTL Fundamentals in Classroom settings towards ICT-enabled Faculty & Institution Development on an Organisational Level

The second dimension for *ICT & Institutional Development* emphasises institutional capacity with ICT from the perspectives of HE leaders and administrators, in terms of leadership distribution, resource allocation, and consistent investment in a learning organisation. A critical aspect is to create mechanisms to facilitate staff professional development through ICT-enabled programmes, and through multiple communities of practices for mutual support and inspiration (Fig. 4).

		Phase 1 Knowledge Acquisition	Phase 2 Knowledge Application	Phase 3 Knowledge Creation	Phase 4 Knowledge Sharing
ICT & Institutional Development		Understand the role & uses of ICT Infrastructure in Higher Education (HE) in leveraging education practices, institutional management, and organisational development	Apply and use various ICT tools, platforms to facilitate research, education, or management processes regarding distinct roles and responsibilities	Mobilise resources and develop cost-effective ICT applications and infrastructure in accordance with local contexts and educational demands	Build a broad consensus of HE digital transformation and promote staff awareness & responsiveness to updated uses of ICT through active communication & support
		Understand directions and approaches for HE staff professional development enabled by the introduction of ICT resources	Adopt ICT-related professional development pathways as virtual professional learning communities, online novice training systems in ensuring effective staff development	Explore, create, manage, and upgrade ICT-enabled staff professional development programmes at all levels in fostering a learning organisation with improved digital literacy	Establish dynamic networks and communities of practices to empower sharing of knowledge & expertise in ICT-enabled staff professional development
		Understand the relevance of ICT in HE policies, research, documentation, and their relevance to institutional, local, and national education goals	Establish visions for institutional development and translate values & expectations into achievable goals connected to ICT policies and digital transformation plans	Transform and innovate on institutional development plans integrating global HE digital transformation practices, and formulate locally based ICT policies & route maps	Advocate institutional policy- and decision-making in creating conditions that allow faculty & staff to step forward and take actions for positive changes

Fig 4. Key Competencies for ICT & Institutional Development

- **Understanding Emerging ICT in Higher Education for Future-oriented Talent Cultivation**

The third dimension for *Emerging ICT & Education Innovation* addresses the overarching impact of ICT in higher education that extends beyond university campuses. It suggests practical solutions for all HEW of internal and external stakeholders to build a future Smart Institution with the collective endeavour, and facilitate future talent cultivation through research innovation, industrial partnership, and entrepreneurial projects creating broad social benefits (Fig. 5).

	Phase 1 Knowledge Acquisition	Phase 2 Knowledge Application	Phase 3 Knowledge Creation	Phase 4 Knowledge Sharing
Emerging ICT & Education Innovation	Understand the basic knowledge & applications of emerging ICT (listed as AI, Big Data, Cloud, IoT, Blockchain, etc.), and their development trends in higher education contexts	Evaluate the development of emerging ICT and related knowledge production, and reflect on their applications in HE teaching & learning, research, and administration & management	Develop innovative solutions to empower the HE ecosystem for digital transformation in exploring prospective uses of emerging ICT in various social, economic, and industrial settings	Foster knowledge sharing and experience exchange in building a people-centric, data-driven, and technology-enabled Smart campus with emerging ICT
	Understand the trends and significance of disciplinary reform & development, and related talent cultivation in emerging ICT fields	Identify existing issues & opportunities in disciplinary development and talent cultivation according to local digital transformation demands	Conceive and reform education disciplines & programmes and create opportunities for students to use, understand, and learn with ICT in mirroring its relevance in future digital workplaces	Build a shared vision of ICT-enabled future talent development for augmented human intelligence and metacognitive learning capabilities in constructing a knowledge-based digital society
	Understand the models, processes, and mechanisms for university-industry partnership and entrepreneurship projects capturing digital opportunities	Initiate academic, scientific research, entrepreneurship projects integrating multi-/cross-disciplinary ICT resources, and in collaboration with internal & external partners	Create standards and procedures for research innovation with ICT, funding & support, technology commercialisation, Intellectual Property (IP) rights, and entrepreneurship training & practices	Advocate the development of entrepreneur ecosystems and innovation-driven environments within HEs addressing the convergence of values, beliefs, and digital transformation of HE

Fig 5. Key Competencies for Emerging ICT & Education Innovation

6. Next Steps

Our shared objective is to leverage higher education with ICT for partner HEIs, and stimulate indigenous innovation through cultivating an active, capable future workforce by empowering the local Higher Education Workforces (HEW) to enhance digital literacy.

The IIOE-CFHEW provides a roadmap, a guideline, and a toolkit for HEI practitioners to apply and improve ICT skills required in these fields as a holistic approach.

To better situate the IIOE-CFHEW with partner HEIs' local development needs, IIOE will:

- Continue to improve the validity & reliability of the IIOE-CFHEW based on internationally agreed HE staff ICT competency upscaling approaches
- Map out the IIOE-CFHEW to the IIOE Online Course System as a guideline for IIOE learners in obtaining essential ICT competencies
- Suggest on implementation & localisation approaches for partner HEIs and the HEW in terms of where and how to locate the IIOE-CFHEW
- Establish links with the Quality Assurance (QA) Framework 2.0 in ensuring HEIs can realise digital transformation at sustainable rates

Boosting Higher Education and investing in future talent is the most promising way of tackling the digital divide. The HEIs and multiple stakeholders of individual countries have their distinct roles and responsibilities, but working together, we can gain momentum in transforming the higher education landscape and equip people for a digital future.

IIOE welcomes the commitment of partner universities and all other HEIs in the Asia and Africa regions to implement digital transformation strategies and support the development of the HEW.





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