

IDEAL

Integrating Data Analysis and AI in Learning Experiences

D2.3

Activity 2 (Result 3)

THE IDEAL COMPETENCE FRAMEWORK

Developing a Competence Framework for Teaching Staff in European Higher Education: Rationale and Alignment with LEVEL5 Methodology

Work Package 2: Use case Inventory for AI and Data Analysis in Higher Education and Competence Framework

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Executive Summary

The IDEAL Competence Framework emerges as a timely and strategic initiative in response to the profound transformations brought by Artificial Intelligence (AI) and data analytics in higher education. Developed under the leadership of Aristotle University of Thessaloniki within the IDEAL project, this framework seeks to equip European Higher Education (HE) teaching staff with the competences necessary to critically, ethically, and effectively integrate AI technologies into teaching, learning, and professional practices. In doing so, it provides a structured pathway for professional development, deeply rooted in competency-based education principles and aligned with European standards and frameworks such as DigCompEdu and the European Qualifications Framework (EQF). The rationale underpinning the IDEAL Competence Framework is based on the growing necessity for HE teaching staff to go beyond mere technical proficiency. In an environment where AI tools increasingly mediate educational processes, teachers are called not only to use such tools but to understand their limitations, critique their outputs, anticipate their ethical implications, and leverage them to foster inclusive, equitable, and effective learning environments. The framework explicitly recognizes that AI is not a neutral technological advancement but a socio-technical system that can reproduce, if not critically mediated, existing biases, inequities, and exclusions. Thus, the IDEAL Framework does not simply aim to foster "digital skills" but seeks to cultivate critical consciousness, ethical responsibility, and pedagogical innovation in relation to AI.

Structurally, the IDEAL Competence Framework is organized into four main types of competences: Pedagogical-AI Integration, AI-Enhanced Curriculum Design and Assessment, Ethical, Inclusive, and Data-Literate AI Use, and AI-Driven Professional Development and Collaboration. Each type encompasses five core competences, and each core competence is further broken down into two sub-competences, leading to a total of 40 sub-competences. Every competence is elaborated with reference to the LEVEL5 methodology, providing a 3-dimensional (cognitive, activity, affective) and 5-stage developmental model that enables personalized learning trajectories, detailed competence assessment, and transparent validation processes. The approach adopted by the framework is firmly grounded in the LEVEL5 evaluation methodology, which allows for a nuanced, evidence-based assessment of competence development across knowledge, skills, and attitudes. Rather than offering a static or prescriptive list, the IDEAL framework presents an open inventory, a dynamic tool intended to be adapted, expanded, and contextualized according to the needs of different institutions, disciplines, and teaching staff profiles. This ensures its relevance across the diversity of the European Higher Education landscape and guards against the risk of obsolescence in a rapidly changing technological environment. At the heart of the framework lies a dual ambition: to foster AI competence development that is not only technologically proficient but also ethically reflective and socially responsible, and to create operational links between competence development and European standards for professional recognition and mobility. By offering a detailed and systematic description of competences, the framework facilitates the design of tailored professional development programs, supports the formative and summative validation of competences, and promotes the comparability of competence achievements across institutions and countries. Nevertheless, the IDEAL Competence Framework does not shy away from acknowledging the significant challenges inherent in this endeavor. Among the most pressing are the accelerating pace of AI technological evolution, which threatens to outdate competence frameworks within short cycles; the considerable variation in digital readiness among HE institutions and teaching staff; and the ethical complexity involved in navigating issues such as data privacy, algorithmic bias, transparency, and the potential dehumanization of learning processes. The framework thus positions itself not as a definitive or closed model but as a flexible, evolving tool that requires continuous critical engagement, iterative updating, and participatory refinement. Furthermore, the IDEAL Framework stresses that genuine competence in AI-enhanced education is not achieved solely through technical training. It demands a reflective, critical stance toward the sociotechnical systems shaping education, a commitment to inclusive and accessible learning designs, and a willingness to use AI not as a replacement for human judgment and care but as a means to enhance them. The competences identified promote not only the efficient use of AI but also the cultivation of metacognitive and ethical capabilities, the fostering of critical digital literacy among students, and the strengthening of democratic, equitable, and human-centered educational values in an AI-mediated world.

In conclusion, the IDEAL Competence Framework offers European higher education a robust, comprehensive, and critically informed model for navigating the challenges and opportunities of AI integration. It stands out not for offering quick fixes or technical recipes but for promoting a deep, holistic vision of AI-related competences, one that foregrounds ethical reflection, inclusivity, adaptability, and pedagogical transformation. Its commitment to aligning technological innovation with humanistic educational values provides an essential counterweight to the often uncritical narratives surrounding AI in education. If strategically adopted and contextually adapted, the IDEAL Competence Framework holds the potential to significantly enhance the capacity of HE teaching staff to lead, rather than merely react to, the AI-driven changes sweeping across higher education.

1. Rationale

The rapid integration of Artificial Intelligence (AI) into various sectors has necessitated a reevaluation of competencies required by professionals, particularly higher education (HE) teaching staff. In the context of European higher education, developing an AI competence framework is essential to equip HE teaching staff with the necessary skills, knowledge, and attitudes to effectively harness AI in teaching and learning. This narrative elucidates the rationale behind constructing such a detailed framework, supported by academic references. Constructing a detailed AI competence framework for HE teaching staff in European higher education is a strategic response to the growing integration of AI in education. Such frameworks provide a structured approach to developing the necessary competencies, ensuring that HE teaching staff can effectively and ethically harness AI's potential to enhance teaching and learning. By aligning with European standards, promoting personalized professional development, and addressing ethical considerations, these frameworks play a pivotal role in preparing HE teaching staff for the evolving educational landscape.

The Imperative for AI Competence in European Higher Education

AI's pervasive influence extends to education, offering tools that can personalize learning, automate administrative tasks, and provide data-driven insights into student performance. In European higher education, the effective integration of AI requires HE teaching staff to possess specific competencies that enable them to critically assess, implement, and manage AI tools responsibly. Without these competencies, there is a risk of misapplication, ethical oversights, and missed opportunities for enhancing educational outcomes.

Competency-Based Education: A Foundation

Competency-Based Education (CBE) emphasizes the acquisition of specific skills and knowledge, allowing learners to progress upon demonstrating mastery. This approach aligns with the need for HE teaching staff to develop AI-related competencies systematically. CBE assessments help create personalized learning experiences designed to address individual areas for improvement, ensuring that HE teaching staff can tailor their professional development to meet the demands of AI integration.

The Role of Competency Frameworks in European Higher Education

Competency frameworks serve as structured models that define the requisite skills, knowledge, behaviors, and attributes for effective performance in a specific role or profession. In the context of European higher education, such frameworks ensure that HE teaching staff are not only proficient in AI technologies but also understand their ethical implications and pedagogical applications.

Existing AI Competency Frameworks in Europe

Several organizations have recognized the need for AI competency frameworks within European higher education:

- DigCompEdu: The European Framework for the Digital Competence of HE teaching staff (DigCompEdu) is a scientifically sound framework describing what it means for HE teaching staff to be digitally competent. It provides a general reference frame to support the development of HE teaching staff-specific digital competences in Europe.
- UNESCO's AI Competency Frameworks: These frameworks aim to guide countries in supporting students and teachers to understand the potential as well as risks of AI in order to engage with it in a safe, ethical, and responsible manner in education and beyond.

These frameworks highlight the global recognition of AI literacy as a critical component of modern education.

Components of an AI Competence Framework for HE teaching staff

A comprehensive AI competence framework for HE teaching staff typically encompasses the following components:

- Knowledge: Understanding AI concepts, functionalities, and ethical considerations.
- Skills: Ability to implement and utilize AI tools effectively in educational settings.
- Attitudes: Cultivating an ethical mindset and openness to integrating AI into teaching practices.

For instance, the DigCompEdu framework includes a wide range of components organized within six major areas: (1) professional engagement, (2) digital resources, (3) teaching and learning, (4) assessment, (5) empowering learners, and (6) facilitating learners' digital competency.

Benefits of an AI Competence Framework in European Higher Education

Implementing an AI competence framework offers several advantages:

1. Alignment with European Standards: Ensures that HE teaching staff's competencies are in sync with current technological advancements and European educational policies.
2. Personalized Professional Development: Allows HE teaching staff to identify specific areas for growth and engage in targeted learning experiences.
3. Enhanced Educational Outcomes: Empowers HE teaching staff to leverage AI tools to create more engaging, efficient, and personalized learning environments for students.
4. Ethical AI Integration: Promotes the responsible use of AI, addressing potential biases and ensuring equitable access to AI-enhanced education.

Challenges in Developing an AI Competence Framework

While the benefits are substantial, developing such a framework presents challenges:

- Rapid Technological Evolution: AI technologies evolve swiftly, making it challenging to keep competency frameworks up-to-date.
- Diverse Educational Contexts: HE teaching staff operate in varied environments with differing resources, student needs, and institutional goals, necessitating adaptable frameworks.
- Ethical Considerations: Addressing the ethical implications of AI, including data privacy and algorithmic bias, requires continuous reflection and adaptation within the framework.

The IDEAL competence framework

This framework consists of two sets of competences. The first set pertains to digital data competences, while the second focuses on professional competences essential for planning, delivering, and validating learning related to digital data, with a particular emphasis on Data Analysis and AI. Each set is based on an inventory of relevant themes and competences, comprising 40 sub-competences. These will serve two functions: as a reference inventory for validating competences and as a planning tool for acquiring digital data and training competences.

2. The Competence Framework

Crafting the IDEAL Competence Framework on Digital Data, aims at identifying and delineating competences pertinent to digital data. Each competence is accompanied by a set of sub-competences. The LEVEL5 methodology is employed to devise a reference system linked to each competence and sub-competence. Furthermore, the IDEAL Competence Framework is complemented with the most pertinent assessment approaches for evaluating the development of digital data competences. The establishment of the IDEAL competence framework on digital data, encompassing 20 competences along with their corresponding 40 sub-competences within the digital data domain.
The aim of IDEAL Competence Framework will be to develop a competency scaffold which could be linked to the European Qualification Framework (EQF). The IDEAL Competence Framework includes a Reference System based on LEVEL5 Methodology, and the IDEAL Competence Inventory, a list of descriptions for each and every competence and sub-competence, and it should be operationalised in a way that one the one hand result in a competence oriented learning and validation approach (aiming at "effective learning") and at the same time to facilitate a comparability of different training and learning unit and competence levels and applying European standards.
At this phase an **IDEAL competence inventory** will also be created as an open catalogue of competences that are relevant to HE teaching staff. Each competence and sub-competences will be briefly described using two contextual descriptors; one for the actual competence and the other for the context in which it will be used with reference to HE teaching staff. The concept of an inventory implies that it is neither a closed repository nor a compulsory catalogue from which all items have to be selected.

Table 1. An example of the description (with two descriptors) for the competence "Facilitating ICT based learning". Similar description will be included for each and every competence and sub-competence for the IDEAL Competence Framework

Facilitating ICT based learning environments
– Being competent in facilitating and supporting ICT based learning environments in order to issue badges. This is a rather specific competence related to the badging of learning outcomes, however it can be and should be transferred to media competences and the use of ICT in general.
– The person is able to design, develop, implement, and facilitate ICT-based learning environments and can give support to learning persons working with, or in, ICT-based learning environment and learners who use ICT to further develop themselves. Furthermore, the person is able to assess the effectiveness of the ICT-based learning environment.

Utilizing the **LEVEL5 methodology**, reference systems will be devised for the three dimensions of knowledge, skills, and attitudes. Each core competence (C) and sub-competence (S) is elaborated on the reference system, and corresponding indicators (Cognitive, Activity, Affective) will be described for each competence and sub-competence following the LEVEL5 methodology (Table 2).

Table 2. An example of a LEVEL5 Methodology based Reference System for the competence "Facilitating ICT based learning"

L	COGNITIVE/KNOWLEDGE		ACTIVITY		AFFECTIVE	
	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement
5	Know where else (knowledge for transfer)	To have a large background in using ICT in education. To know how to apply ICT in different sectors of work and life.	Developing/ Constructing Transfer	To build knowledge and expertise, to construct related theory and practice. To help other trainers apply the right approach and tools.	Incorporation Internalisation	To have an incorporated reflex to use ICT in your teaching and learning. To find it important that the sector adopts ICT based materials and activities

		To know how to support others to apply ICT for educational purposes.				To feel the need to help other people use ICT To feel the need to use ICT tools in other domains of life.
4	Know when (Implicit understanding	To know when to use face to face, mixed mode and e-learning approaches considering learners (the target group) and objectives. To know when and how to apply different ICT applications for the different objectives of the course.	Discovering/ acting indepen-dently	To search for related theory. To create appropriate ICT materials and processes with learning conditions related to the competence development as envisaged.	Commitment Volition	To feel the need to review the theories and practices about ICT in education. To feel the need to share experiences and feedback. To find it important to be pro-active and creative.
3	Know how	To know how ICT can improve the learning and group cohesion in the different phases of a training course.	Deciding/ selecting	Decide to use ICT resources considering the feedback, objectives and timing. Select appropriate applications and software.	Appreciation Motivation	To value the use of ICT in education. To feel that the use of ICT is important for your role of HE teaching staff.
2	Know why (Distant understanding	To know that ICT can improve the social sustainable development of Grundtvig courses To know that the use of the ICT in courses can improve the motivation, autonomy, collaboration and creativity of the learners.	Using, Imitating	To occasionally use existing ICT resources, materials, applications in VET courses.	Curiosity Perspective taking	To be interested in using ICT applications for teaching and learning in VET courses.
1	Know-what	To know what ICT implies for VET trainings. To know that ICT can play an important role as a component of teaching and learning.	Perceiving	To see that ICT is used in education. To recognise the importance of ICT use in VET courses.	Self oriented, neutral	Feeling that ICT based teaching and learning can be beneficial for your own competence development.

LEVEL5 is an innovative evaluation system which enables stakeholders in European projects to assess and to display the impact of collaborative project work in transnational teams. The effects (or the impact) of non-formal and informal learning can be displayed through the development of learners' competences (e.g. specific theme centred knowledge, improvement of "soft" skills like collaboration and intercultural communication, attitudes towards other groups etc.). The LEVEL5 evaluation procedure is on one hand standardised but at the same time enables users to establish individualised reference systems for assessing and evidencing relevant competences of their target groups in a process-orientated way. With the help of LEVEL5 one can measure, display and evidence individual competence developments and give proof of the range of effects resulting from cooperation in European projects. Establishing an individualised reference system means adapting the reference system from the inventory to the specifics of project and target group on the basis of a 3-dimensional (cognitive, affective, activity related) rating system with five individualised stages/levels. This methodology is implemented to organize the IDEAL Reference system for all competences and sub-competences that are identified.

Types of Competences

There are 4 types of competences identified in the IDEAL project:

1. **Type 1: Pedagogical-AI Integration Competences**

How HE teaching staff integrate AI meaningfully into inclusive and accessible teaching practices

2. **Type 2: AI-Enhanced Curriculum Design and Assessment Competences**

How HE teaching staff design courses, materials, and assessments with the support of AI for diverse learners

3. **Type 3: Ethical, Inclusive, and Data-Literate AI Use Competences**

How HE teaching staff engage with ethical, inclusive, and data-conscious practices in AI-supported environments

4. **Type 4: AI-Driven Professional Development and Collaboration Competences**

How HE teaching staff use AI to develop professionally, collaborate, and enhance institutional practices

In each type of competence we have also identified 5 core competences with 2 sub-competences related to each competence, that are described below and further analysed using the LEVEL5 methodology:

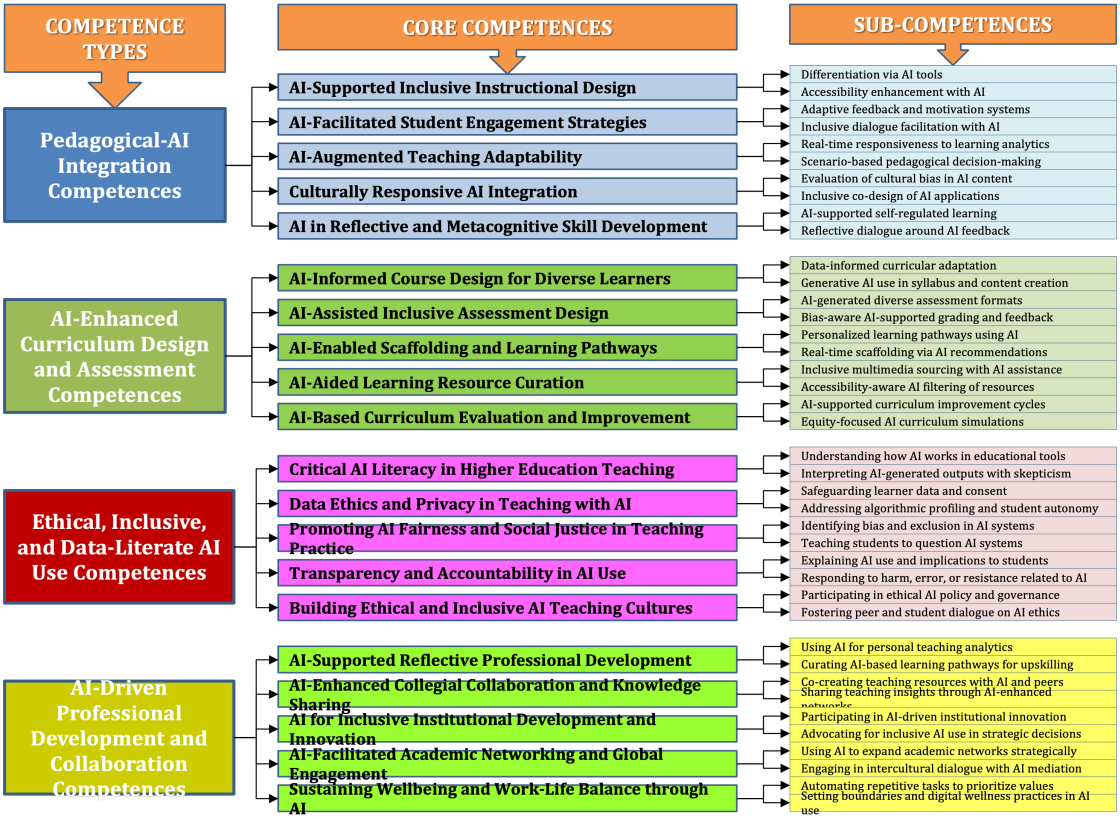


Figure 1. The IDEAL Competence Framework

Type 1: Pedagogical-AI Integration Competences

Core competence 1.1: AI-Supported Inclusive Instructional Design

In a diverse classroom, designing instruction that speaks to varied learning styles and needs is essential. This competence focuses on a HE teaching staff's ability to integrate AI tools (e.g., adaptive platforms, generative tutors) into the planning and delivery of teaching in ways that expand access and promote learning equity. It encompasses understanding students' diverse backgrounds and leveraging AI to scaffold complex content, differentiate learning paths, and personalize support. HE teaching staff must also critically assess the limitations of these tools and adjust their use to avoid biases and ensure cultural sensitivity.

Alignment to the LEVEL5 Methodology

●	COGNITIVE/KNOWLEDGE		ACTIVITY		AFFECTIVE	
L	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement
5	Know where else (knowledge for transfer)	Know where else such inclusive AI design can be transferred across educational contexts.	Developing/ Constructing Transfer	Transfer inclusive AI practices across disciplines or institutions.	Incorporation Internalisation	Fully integrate inclusion as a core ethical and pedagogical stance.
4	Know when (Implicit understanding	Know that AI inclusivity patterns mirror broader UDL and accessibility principles.	Discovering/ acting independently	Discover new AI tools to meet underrepresented learners' needs.	Commitment Volition	Show commitment to equitable access through AI.
3	Know how	Know how to design learning that incorporates AI for diverse learners	Deciding/ selecting	. Decide how to balance AI-generated adaptations with pedagogical goals.	Appreciation Motivation	Value inclusive principles in AI-enhanced learning.
2	Know why (Distant understanding	Know why inclusive design enhances accessibility and participation	Using, Imitating	Apply AI to adjust materials for accessibility.	Curiosity Perspective taking	Recognize diverse learning needs.
1	Know-what	. Know that AI tools can support inclusive teaching design.	Perceiving	Perceive opportunities to use AI to address diverse needs.	Self oriented, neutral	Neutral toward inclusion as a design principle

Sub-competences:

1.1.1 Differentiation via AI tools: Use AI to tailor learning materials based on student profiles and real-time feedback.

Alignment to the LEVEL5 Methodology

	COGNITIVE/KNOWLEDGE		ACTIVITY		AFFECTIVE	
L	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement
5	Know where else (knowledge for transfer)	Know where else AI differentiation can be extended (e.g., informal learning, community outreach).	Developing/ Constructing Transfer	Transfer AI-based differentiation strategies across subjects and modalities.	Incorporation Internalisation	Incorporate equity-driven AI use into personal teaching identity and institutional practice.
4	Know when (Implicit understanding	Know that differentiated AI design needs alignment with learning objectives and student data ethics.	Discovering/ acting independently	Discover new ways to co-design adaptive learning paths with students.	Commitment Volition	Commit to continuous adaptation of instruction through AI to serve all students.
3	Know how	Know how to select and configure AI tools for differentiated learning.	Deciding/ selecting	Decide when and how to use adaptive tools to meet instructional goals.	Appreciation Motivation	Value inclusivity and accessibility as core educational principles.
2	Know why (Distant understanding	Know why differentiated instruction supports equity in learning.	Using, Imitating	Apply AI platforms to personalize content delivery.	Curiosity Perspective taking	Acknowledge diverse learner profiles and needs.
1	Know-what	Know that AI can adapt content for different learners.	Perceiving	Perceive the diversity in student learning needs.	Self oriented, neutral	Neutral stance toward individual learning needs.

1.1.2 Accessibility enhancement with AI: Employ AI to provide multimodal content (text-to-speech, transcripts, simplifications) supporting students with disabilities or language barriers.

Alignment to the LEVEL5 Methodology

	COGNITIVE/KNOWLEDGE		ACTIVITY		AFFECTIVE	
L	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement

5	Know where else (knowledge for transfer)	Know where else accessibility principles can be applied using AI (e.g., event design, outreach).	Developing/ Constructing Transfer	Transfer accessibility approaches across platforms, courses, and support services.	Incorporation Internalisation	Internalize accessibility as a core pedagogical value and advocate for systemic adoption.
4	Know when (Implicit understanding	Know that accessibility needs vary dynamically across students and contexts.	Discovering/ acting independently	Discover user-driven improvements to accessibility tools.	Commitment Volition	Demonstrate strong commitment to digital inclusion.
3	Know how	Know how to implement AI accessibility features in platforms and content.	Deciding/ selecting	Decide which AI affordances to deploy for which learners.	Appreciation Motivation	Appreciate universal design and assistive tech in education.
2	Know why (Distant understanding	Know why accessibility is crucial for equitable education.	Using, Imitating	Apply AI-based accessibility options (captions, translations, interface settings).	Curiosity Perspective taking	Recognize when students are excluded or underserved.
1	Know-what	Know that AI tools can improve accessibility (e.g., text-to-speech).	Perceiving	Perceive barriers that learners face in accessing materials.	Self oriented, neutral	Indifferent to accessibility needs.

Core competence 1.2: AI-Facilitated Student Engagement Strategies

This competence involves using AI tools to foster dynamic, inclusive, and participatory learning environments. The HE teaching staff strategically applies AI to promote active learning, encourage reflection, and enable feedback-rich interactions. Through AI chatbots, gamified platforms, or sentiment analysis tools, engagement is diversified and made more responsive to individual learner needs. Importantly, HE teaching staff must ensure that AI enhances rather than replaces human pedagogical presence, maintaining an inclusive ethos that values all voices.

Alignment to the LEVEL5 Methodology

●	COGNITIVE/KNOWLEDGE		ACTIVITY		AFFECTIVE	
L	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement
5	Know where else (knowledge for transfer)	Know where else AI-driven engagement strategies are effective.	Developing/ Constructing Transfer	Adapt AI engagement techniques across varied learner profiles.	Incorporation Internalisation	Champion engagement as central to AI-enhanced pedagogy.
4	Know when (Implicit understanding	Know that engagement via AI aligns with motivational theories.	Discovering/ acting indepen-dently	Innovate new ways to use AI to sustain engagement.	Commitment Volition	Demonstrate ongoing effort to increase engagement via AI.
3	Know how	Know how to use AI for real-time feedback, gamification, or adaptive activities	Deciding/ selecting	Decide which AI strategies align with learning objectives	Appreciation Motivation	Appreciate AI's role in active learning.
2	Know why (Distant understanding	Know why engagement affects learning outcomes.	Using, Imitating	Use AI to personalize engagement approaches	Curiosity Perspective taking	Recognize engagement is a shared responsibility.
1	Know-what	. Know that AI can support student engagement.	Perceiving	Notice student disengagement patterns.	Self oriented, neutral	See engagement as teacher-centered.

Sub-competences:

1.2.1 Adaptive feedback and motivation systems: Use AI to provide tailored encouragement and challenge based on learner profiles.

Alignment to the LEVEL5 Methodology

	COGNITIVE/KNOWLEDGE		ACTIVITY		AFFECTIVE	
L	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement
5	Know where else (knowledge for transfer)	Know where else adaptive AI feedback can influence learner motivation (e.g., peer learning, self-assessment, mentorship tools.	Developing/ Constructing Transfer	Transfer adaptive feedback design to various learning formats and culturally diverse contexts.	Incorporation Internalisation	Integrate ethical, inclusive feedback practices as a personal teaching ethos.
4	Know when (Implicit understanding	Know that AI-generated feedback must be contextualized within pedagogical intent and student diversity.	Discovering/ acting independently	Discover new combinations of AI-human feedback strategies that foster sustained engagement.	Commitment Volition	Commit to building emotionally intelligent feedback systems with AI support.
3	Know how	Know how to configure AI tools to provide relevant, timely feedback based on learner data	Deciding/ selecting	Decide when to use AI versus human feedback for motivational effectiveness.	Appreciation Motivation	Appreciate feedback as a relational and inclusive pedagogical act.
2	Know why (Distant understanding	Know why adaptive feedback supports learning persistence and engagement.	Using, Imitating	Apply AI feedback tools to monitor learner progress and intervene with personalized guidance.	Curiosity Perspective taking	Recognize that motivation varies by learner identity, background, and context.

1	Know-what	Know that AI systems can deliver personalized feedback and motivational nudges.	Perceiving	Perceive how learners respond to different types of feedback.	Self oriented, neutral	Indifferent to the emotional or motivational impact of feedback.

1.2.2 Inclusive dialogue facilitation with AI: Deploy AI chatbots or discussion assistants to support hesitant or underrepresented students in participation.

Alignment to the LEVEL5 Methodology

	COGNITIVE/KNOWLEDGE		ACTIVITY		AFFECTIVE	
L	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement
5	Know where else (knowledge for transfer)	Know where else AI-supported dialogue can reduce exclusion (e.g., multilingual interaction, asynchronous forums).	Developing/ Constructing Transfer	Transfer inclusive dialogue practices across disciplines, class sizes, and delivery modes.	Incorporation Internalisation	Embed inclusive dialogue into one's pedagogical identity and community engagement
4	Know when (Implicit understanding	Know that AI-mediated dialogue must be sensitive to power dynamics and communication barriers.	Discovering/ acting independently	Discover methods for using AI to amplify marginalized voices and foster empathy.	Commitment Volition	Commit to fostering inclusive discourse through both technological and human means.
3	Know how	Know how to use AI tools to scaffold, moderate, and extend student dialogue.	Deciding/ selecting	Decide how to structure dialogue activities where AI supports rather than dominates conversation.	Appreciation Motivation	Value dialogue as a tool for learning, inclusion, and identity expression.
2	Know why (Distant understanding	Know why inclusive participation in discussion is critical for deep learning.	Using, Imitating	Apply AI discussion aids to elicit responses from diverse students.	Curiosity Perspective taking	Take perspective on why some students disengage or under-participate.
1	Know-what	Know that AI tools (e.g., chatbots, discussion prompts) can support student dialogue.	Perceiving	Perceive patterns of participation and silence in classroom discussions.	Self oriented, neutral	View participation as a student responsibility, regardless of barriers.

Core competence 1.3: AI-Augmented Teaching Adaptability

The ability to adapt teaching in real time based on AI-generated insights is at the heart of this competence. It involves interpreting analytics or AI-suggested interventions to adjust lesson plans, pace, or instructional techniques. This promotes equitable responsiveness to learner needs, especially those who may struggle in traditional pacing models. Importantly, HE teaching staff must act as decision-makers—using AI insights to guide, not dictate, pedagogical decisions.

Alignment to the LEVEL5 Methodology

●	COGNITIVE/KNOWLEDGE		ACTIVITY		AFFECTIVE	
L	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement
5	Know where else (knowledge for transfer)	Know where AI-driven adaptability can inform course design and delivery more broadly.	Developing/ Constructing Transfer	Transfer adaptive practices across courses and learner contexts.	Incorporation Internalisation	Embody adaptability as a guiding teaching philosophy.
4	Know when (Implicit understanding	Know that adaptation with AI builds on real-time data.	Discovering/ acting indepen-dently	Develop hybrid models that combine AI flexibility with human judgment.	Commitment Volition	Commit to iterative course adjustments.
3	Know how	Know how to use AI to modify pacing, content, or modality.	Deciding/ selecting	Decide when to intervene and when to allow AI to adjust autonomously.	Appreciation Motivation	Appreciate AI's potential in adapting instruction.
2	Know why (Distant understanding	Know why adaptability enhances responsiveness to learner needs.	Using, Imitating	Use AI to tweak instruction in response to performance data.	Curiosity Perspective taking	Understand value in flexible teaching.
1	Know-what	Know that AI allows flexible teaching adjustments.	Perceiving	Observe when adaptation may be needed	Self oriented, neutral	Accept static planning as sufficient.

Sub-competences:

1.3.1 Real-time responsiveness to learning analytics: Analyze and respond to AI-reported patterns of student progress and difficulty.

Alignment to the LEVEL5 Methodology

	COGNITIVE/KNOWLEDGE		ACTIVITY		AFFECTIVE	
L	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement

5	Know where else (knowledge for transfer)	Know where else predictive analytics can be applied to support proactive teaching interventions (e.g., student well-being, group dynamics).	Developing/ Constructing Transfer	Transfer data-responsive pedagogy across courses, platforms, and learner populations.	Incorporation Internalisation	Embody a data-informed teaching mindset integrated with ethical responsibility
4	Know when (Implicit understanding	Know that data patterns require contextual interpretation and should be triangulated with human judgment.	Discovering/ acting independently	Discover novel strategies to anticipate and preempt learning challenges through real-time data.	Commitment Volition	Commit to using analytics as an active part of inclusive pedagogy
3	Know how	Know how to interpret and act upon AI-generated analytics (e.g., engagement levels, concept mastery).	Deciding/ selecting	Decide which interventions are appropriate and ethically sound based on the AI data.	Appreciation Motivation	Appreciate the value of real-time responsiveness for equity and learner support.
2	Know why (Distant understanding	Know why timely instructional response to data supports learning equity and prevents dropout.	Using, Imitating	Apply instructional changes in response to specific learner needs flagged by analytics.	Curiosity Perspective taking	Acknowledge the potential of learning data to inform instruction.
1	Know-what	Know that AI tools can provide real-time analytics on student learning behaviors and outcomes.	Perceiving	Perceive when AI analytics indicate learning struggles or disengagement.	Self oriented, neutral	Passive or skeptical about the relevance of analytics in teaching.

1.3.2 Scenario-based pedagogical decision-making: Use AI simulations to prepare for diverse classroom scenarios and adapt plans accordingly.

Alignment to the LEVEL5 Methodology

	COGNITIVE/KNOWLEDGE		ACTIVITY		AFFECTIVE	
L	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement
5	Know where else (knowledge for transfer)	Know where else scenario-based AI modeling can be applied (e.g., institutional planning, cross-cultural learning environments).	Developing/ Constructing Transfer	Transfer scenario-based insights to real-life classroom improvisation and mentoring others.	Incorporation Internalisation	Internalizes adaptability as core to inclusive, responsive academic identity.
4	Know when (Implicit understanding	Know that AI-generated scenarios should reflect social and cognitive diversity, not abstractions.	Discovering/ acting independently	Discover gaps in one's own pedagogical repertoire using simulated feedback.	Commitment Volition	Invested in continual improvement through AI-informed reflection.
3	Know how	Know how to engage with AI-driven simulations to test and refine pedagogical decisions.	Deciding/ selecting	Decide among multiple strategies tested through AI modeling.	Appreciation Motivation	Appreciates anticipatory planning as inclusive pedagogy.
2	Know why (Distant understanding	Know why scenario planning enhances preparedness for diverse teaching situations.	Using, Imitating	Apply scenario tools to rehearse instructional responses.	Curiosity Perspective taking	Open to imagining alternatives through AI scenarios.
1	Know-what	Know that AI simulations and "what-if" engines can model classroom scenarios.	Perceiving	Perceive patterns and challenges in teaching scenarios.	Self oriented, neutral	Sees teaching as reactive or fixed.

Core competence 1.4: Culturally Responsive AI Integration

AI use in teaching must reflect an understanding of cultural nuance and social diversity. This competence refers to the ability to assess whether AI-generated content or recommendations are inclusive and respectful of students' identities. It also includes adapting AI tools to reflect diverse perspectives and preventing the marginalization of non-dominant epistemologies. The HE teaching staff serves as both user and critic of AI systems, aligning their use with social justice and anti-bias pedagogies.

Alignment to the LEVEL5 Methodology

●	COGNITIVE/KNOWLEDGE		ACTIVITY		AFFECTIVE	
L	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement
5	Know where else (knowledge for transfer)	Know where else culturally responsive AI practices apply beyond education.	Developing/ Constructing Transfer	Transfer culturally responsive frameworks to new AI tools or platforms.	Incorporation Internalisation	Promote cultural responsiveness as a non-negotiable standard.
4	Know when (Implicit understanding	Know that algorithmic bias reflects deeper sociotechnical structures.	Discovering/ acting indepen-dently	Discover alternative culturally responsive tools and datasets.	Commitment Volition	Actively include cultural considerations in AI integration.
3	Know how	Know how to select, adapt, or critique AI tools through a cultural lens.	Deciding/ selecting	Decide when and how to modify AI practices to respect cultural diversity.	Appreciation Motivation	Value culturally informed AI decisions.
2	Know why (Distant understanding	Know why culturally biased AI can marginalize learners.	Using, Imitating	Apply AI responsibly to reflect learners' cultural contexts.	Curiosity Perspective taking	Recognize cultural factors influence learning.

1	Know-what	Know that cultural responsiveness is essential in AI use.	Perceiving	Perceive cultural implications in AI-mediated content.	Self oriented, neutral	Show indifference to cultural dimensions in AI.

Sub-competences:

1.4.1 Evaluation of cultural bias in AI content: Critically review AI-generated outputs for cultural insensitivity or bias.

Alignment to the LEVEL5 Methodology

	COGNITIVE/KNOWLEDGE		ACTIVITY		AFFECTIVE	
L	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement
5	Know where else (knowledge for transfer)	Know where else critical AI literacy is needed (e.g., faculty training, curriculum design, institutional AI policy).	Developing/ Constructing Transfer	Transfer de-biasing practices(recognize AI bias and brief students of it) across tools, disciplines, and learning environments	Incorporation Internalisation	Incorporate anti-bias AI literacy into one's teaching values and advocacy roles.
4	Know when (Implicit understanding	Know that cultural bias in AI is systemic, rooted in data sources and model architectures.	Discovering/ acting independently	Discover patterns of marginalization embedded in training data or system outputs.	Commitment Volition	Commit to examining and deconstructing bias in all AI-supported practices.
3	Know how	Know how to critically assess AI-generated materials (e.g., texts, images, quizzes) for cultural assumptions and omissions.	Deciding/ selecting	Decide whether an AI tool or output is appropriate for diverse learners.	Appreciation Motivation	Appreciate the importance of culturally relevant pedagogy in AI-enhanced teaching.
2	Know why (Distant understanding	Know why it is important to identify and mitigate such biases in educational content.	Using, Imitating	Apply critical review processes to evaluate and revise biased AI outputs.	Curiosity Perspective taking	Recognize that AI can unintentionally reinforce bias.
1	Know-what	Know that AI outputs can reflect cultural bias or reproduce dominant norms.	Perceiving	Perceive signs of cultural exclusion or stereotyping in AI content.	Self oriented, neutral	Unaware or neutral regarding cultural representation in AI outputs.

1.4.2 Inclusive co-design of AI applications: Collaborate with diverse learners to shape how AI tools are used in the classroom.

Alignment to the LEVEL5 Methodology

	COGNITIVE/KNOWLEDGE		ACTIVITY		AFFECTIVE	
L	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement
5	Know where else (knowledge for transfer)	Know where else participatory AI design can be institutionalized (e.g., accessibility councils, student-faculty AI committees).	Developing/ Constructing Transfer	Transfer co-design approaches to broader institutional or interdisciplinary initiatives.	Incorporation Internalisation	Sees inclusive co-design as an ethical imperative and structural norm.
4	Know when (Implicit understanding	Know that co-design requires continuous negotiation, adaptation, and reflexivity.	Discovering/ acting independently	Discover new opportunities for AI customization based on diverse learner input.	Commitment Volition	Committed to embedding participatory design in teaching practice.
3	Know how	Know how to facilitate participatory processes where learners give input on AI-supported learning.	Deciding/ selecting	Decide how to balance technical constraints with student design input	Appreciation Motivation	Appreciates student agency in shaping their learning environment.
2	Know why (Distant understanding	Know why inclusive co-design empowers marginalized voices and improves tool relevance.	Using, Imitating	Apply participatory strategies (e.g., co-creation workshops, feedback loops) with students.	Curiosity Perspective taking	Open to learner perspectives on AI use.
1	Know-what	Know that students can participate in shaping how AI is used in their learning.	Perceiving	Perceive gaps between AI tool design and learner realities.	Self oriented, neutral	Views AI design as the domain of tech developers.

Core competence 1.5: AI in Reflective and Metacognitive Skill Development

AI can be a powerful ally in helping students develop metacognitive awareness and self-regulated learning habits. This competence involves leveraging AI-driven tools (e.g., learning dashboards, reflection prompts, digital portfolios) to foster student reflection, goal setting, and self-monitoring. It also requires guiding students in interpreting AI feedback meaningfully, so it becomes a catalyst for deeper understanding rather than passive consumption.

Alignment to the LEVEL5 Methodology

●	COGNITIVE/KNOWLEDGE		ACTIVITY		AFFECTIVE	
L	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement
5	Know where else (knowledge for transfer)	Know where else AI-assisted reflection tools are effective (e.g., workplace learning).	Developing/ Constructing Transfer	Adapt reflective AI practices to different learning environments.	Incorporation Internalisation	Integrate reflection as a core value in AI-mediated learning.
4	Know when (Implicit understanding	Know that AI-enhanced metacognition aligns with cognitive development theories.	Discovering/ acting indepen-dently	Create new AI tools or strategies for metacognitive growth	Commitment Volition	Promote metacognition through intentional AI use.
3	Know how	Know how to use AI for prompting reflection and self-assessment.	Deciding/ selecting	Decide when to intervene or allow AI-facilitated reflection to unfold.	Appreciation Motivation	Appreciate reflection as key to learning depth
2	Know why (Distant understanding	Know why self-regulated learning improves outcomes.	Using, Imitating	Use AI to scaffold reflective prompts and metacognitive routines.	Curiosity Perspective taking	Accept learners benefit from structured self-monitoring.
1	Know-what	Know that AI can support reflection and metacognition.	Perceiving	Recognize signs of limited learner reflection.	Self oriented, neutral	See metacognition as secondary.

Sub-competences:

1.5.1 AI-supported self-regulated learning: Implement AI tools that scaffold goal setting, tracking, and self-evaluation.

Alignment to the LEVEL5 Methodology

	COGNITIVE/KNOWLEDGE		ACTIVITY		AFFECTIVE	
L	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement
5	Know where else (knowledge for transfer)	Know where else AI-supported self-regulation applies (e.g., peer coaching, academic advising, lifelong learning platforms).	Developing/ Constructing Transfer	Transfer self-regulation strategies into broader program design or student support initiatives.	Incorporation Internalisation	Internalizes self-regulated learning as a lifelong skill and advocates for its systemic support
4	Know when (Implicit understanding	Know that learners' self-regulation strategies differ across cultural, neurodiverse, and socio-economic contexts.	Discovering/ acting independently	Discover new ways to personalize metacognitive supports based on learner diversity.	Commitment Volition	Commits to cultivating self-regulated learning for all learners through AI.
3	Know how	Know how to implement AI dashboards, trackers, and learning companions that scaffold metacognitive processes.	Deciding/ selecting	Decide how to scaffold students' use of AI tools for autonomy rather than dependence.	Appreciation Motivation	Values autonomy, reflection, and agency as learning goals.
2	Know why (Distant understanding	Know why fostering self-regulation improves motivation, autonomy, and long-term learning outcomes.	Using, Imitating	Apply AI tools to structure learning pathways and monitor student progress.	Curiosity Perspective taking	Recognizes the challenges learners face in managing their learning
1	Know-what	Know that AI tools can support learners in setting goals, tracking progress, and reflecting on learning.	Perceiving	Perceive when students struggle with self-monitoring or planning.	Self oriented, neutral	Sees learning regulation as the student's responsibility alone

1.5.2 Reflective dialogue around AI feedback: Facilitate student interpretation of AI-generated feedback to promote critical reflection.

Alignment to the LEVEL5 Methodology

	COGNITIVE/KNOWLEDGE		ACTIVITY		AFFECTIVE	
L	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement
5	Know where else (knowledge for transfer)	Know where else reflective dialogue can occur (e.g., peer review platforms, AI-augmented portfolios, online mentoring systems).	Developing/ Constructing Transfer	Transfer reflective feedback models across programs, mentoring, or institutional cultures (e.g., teaching students how to interpret their own and AI feedback to understand how these feedback types differ).	Incorporation Internalisation	Embeds reflective dialogue in the culture of teaching and learning.
4	Know when (Implicit understanding	Know that AI feedback should be contextualized with human mentoring and relational learning.	Discovering/ acting independently	Discover opportunities to deepen reflection via iterative use of AI and self-assessment.	Commitment Volition	Commits to helping students interpret and engage with AI feedback meaningfully.
3	Know how	Know how to guide learners in making sense of AI-generated feedback (e.g., prompt quality, revision support).	Deciding/ selecting	Decide how to combine AI-generated and human feedback to guide learner growth	Appreciation Motivation	Appreciates reflection as essential to critical, inclusive education
2	Know why (Distant understanding	Know why interpretation of feedback is critical for deeper learning and reflection.	Using, Imitating	Apply reflection prompts or discussions that accompany AI outputs.	Curiosity Perspective taking	Recognizes its potential as a learning prompt.
1	Know-what	Know that AI can provide learners with automated reflections and feedback.	Perceiving	Perceive when students misunderstand or ignore AI feedback.	Self oriented, neutral	Views AI feedback as mechanical and peripheral.

Type 2: AI-Enhanced Curriculum Design and Assessment Competences

How HE teaching staff design courses, materials, and assessments with the support of AI for diverse learners

Core competence 2.1: AI-Informed Course Design for Diverse Learners
In an era where digital tools and diverse learner profiles converge, course design must be both inclusive and data-informed. This competence focuses on the use of AI tools to support the initial stages of curriculum development—aligning learning outcomes, identifying student needs, and selecting relevant content. The HE teaching staff utilizes AI to map prior learning data, generate thematic outlines, and simulate learner pathways. Inclusive AI-informed design prioritizes representation, flexibility, and relevance for all students, especially those historically underserved by traditional curricular norms.

Alignment to the LEVEL5 Methodology

●	COGNITIVE/KNOWLEDGE		ACTIVITY		AFFECTIVE	
L	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement
5	Know where else (knowledge for transfer)	Know where else adaptive AI design can serve marginalized or underrepresented groups.	Developing/ Constructing Transfer	Transfer adaptive design models across different learning contexts.	Incorporation Internalisation	Embrace diversity as a guiding principle in AI-driven design.
4	Know when (Implicit understanding	Know that data-informed design aligns with evidence-based pedagogy.	Discovering/ acting indepen-dently	Develop complex, data-driven learning pathways.	Commitment Volition	Commit to continuous improvement based on AI insights.
3	Know how	Know how to apply AI analytics to inform course structure.	Deciding/ selecting	Decide which AI outputs are most relevant for course revision.	Appreciation Motivation	Appreciate the value of AI for personalization.
2	Know why (Distant understanding	Know why differentiated course design enhances inclusiveness.	Using, Imitating	Apply AI data to differentiate instructional elements.	Curiosity Perspective taking	Recognize differences in learning needs.
1	Know-what	Know that AI can analyze learner data for design insights.	Perceiving	Perceive learner variability from AI feedback.	Self oriented, neutral	View course design as static and universal.

Sub-competences:

2.1.1 Data-informed curricular adaptation: This sub-competence involves using learner data—gathered or predicted by AI—to modify course content, pacing, and sequencing in ways that reflect student readiness and diversity. The HE teaching staff learns to interpret data dashboards, predict student challenges, and embed flexibility into curricular flows.

Alignment to the LEVEL5 Methodology

	COGNITIVE/KNOWLEDGE		ACTIVITY		AFFECTIVE	
L	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement
5	Know where else (knowledge for transfer)	Know where else learning analytics inform design (e.g., institutional planning, cross-course coherence).	Developing/ Constructing Transfer	Transfer adaptive design approaches to new learning contexts.	Incorporation Internalisation	Incorporates data ethics and inclusion as design principles
4	Know when (Implicit understanding	Know that ethical issues (e.g., data privacy, bias) shape how data is used	Discovering/ acting independently	Discover hidden learning patterns through AI-assisted exploration.	Commitment Volition	Commits to refining design for equity.
3	Know how	Know how to interpret AI data for curricular decision-making	Deciding/ selecting	Decide how to balance curricular goals with real-time data.	Appreciation Motivation	Appreciates the power of informed curricular adjustment
2	Know why (Distant understanding	Know why student variability matters in course design	Using, Imitating	Apply AI insights to adjust course materials or structure	Curiosity Perspective taking	Curious about learner differences
1	Know-what	Know that AI can provide learner data for course planning	Perceiving	Perceive variations in student readiness from AI reports	Self oriented, neutral	Neutral about using data in design.

2.1.2 Generative AI use in syllabus and content creation: This sub-competence focuses on employing generative AI (e.g., ChatGPT, language models, content assistants) to co-develop syllabi, lecture outlines, examples, and case studies—tailored to diverse learning needs. The HE teaching staff acts as a critical editor and context-aware author.

Alignment to the LEVEL5 Methodology

L	COGNITIVE/KNOWLEDGE		ACTIVITY		AFFECTIVE	
	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement
5	Know where else (knowledge for transfer)	Know where else generative AI can support inclusive design (e.g., OER creation, cross-language adaptation).	Developing/ Constructing Transfer	Transfer generative design principles across disciplines or tools.	Incorporation Internalisation	Embeds co-creation with AI into one's design identity.
4	Know when (Implicit understanding	Know that language models reflect systemic biases and training limitations	Discovering/ acting independently	Discover creative ways to co-create with AI (e.g., persona building, multilingual synthesis).	Commitment Volition	Committed to ethical, inclusive AI content curation.
3	Know how	Know how to use prompts, filters, and validation processes.	Deciding/ selecting	Decide which outputs are usable, inclusive, and pedagogically aligned	Appreciation Motivation	Appreciates the value of AI as co-author.
2	Know why (Distant understanding	Know why human oversight is essential in AI-generated content	Using, Imitating	Apply prompts to generate materials for varied learner levels	Curiosity Perspective taking	Open to AI input with caution.
1	Know-what	Know that generative AI can suggest syllabi and content ideas.	Perceiving	Perceive opportunities for AI use in content generation	Self oriented, neutral	Skeptical or neutral about AI authorship.

Core competence 2.2: AI-Assisted Inclusive Assessment Design

Assessment is more than measurement—it is a form of dialogue between HE teaching staff and learners. This competence addresses the ability to use AI tools to design inclusive, transparent, and adaptable assessments that serve diverse learners equitably. AI can assist in generating multiple assessment types, analyzing performance patterns, and providing targeted feedback. However, HE teaching staff must ensure these tools are used ethically and complement rather than replace human judgment. The goal is to enhance fairness, reduce bias, and offer multiple ways for students to demonstrate learning.

Alignment to the LEVEL5 Methodology

L	COGNITIVE/KNOWLEDGE		ACTIVITY		AFFECTIVE	
	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement
5	Know where else (knowledge for transfer)	Know where else AI-inclusive assessment strategies are applied (e.g., special education).	Developing/ Constructing Transfer	Transfer inclusive AI assessment approaches across disciplines.	Incorporation Internalisation	Promote inclusion as a norm in AI-supported evaluation.
4	Know when (Implicit understanding	Know that bias can be embedded in AI-generated assessments.	Discovering/ acting independently	Design AI-informed assessments that respect multiple abilities.	Commitment Volition	Actively use AI to design inclusive assessments.
3	Know how	Know how to use AI to differentiate or scaffold assessments.	Deciding/ selecting	Decide on AI-supported accommodations.	Appreciation Motivation	Appreciate AI's potential in reducing barriers.
2	Know why (Distant understanding	Know why fairness and accessibility matter in assessment.	Using, Imitating	Use AI to modify assessment formats or levels.	Curiosity Perspective taking	Recognize diverse abilities in assessment.
1	Know-what	Know that AI can generate or support inclusive assessments.	Perceiving	Detect equity issues in current assessments.	Self oriented, neutral	See standard assessments as sufficient.

Sub-competences:

2.2.1 AI-generated diverse assessment formats: This sub-competence involves using AI tools to design a range of assessment formats (e.g., quizzes, case analyses, simulations, portfolio tasks) that align with learning outcomes and accommodate different learner strengths. AI can suggest alternative question types, generate context-specific tasks, or offer linguistic simplifications.

Alignment to the LEVEL5 Methodology

L	COGNITIVE/KNOWLEDGE		ACTIVITY		AFFECTIVE	
	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement
5	Know where else (knowledge for transfer)	Know where else AI-enhanced assessment design applies (e.g., certification, workplace upskilling).	Developing/ Constructing Transfer	Transfer these practices across disciplines, learning styles, and modalities.	Incorporation Internalisation	Incorporates inclusive design as a foundation of assessment.
4	Know when (Implicit understanding	Know that diversity must be pedagogically grounded, not random.	Discovering/ acting independently	Discover new methods of AI-enhanced task variation.	Commitment Volition	Commits to continuously diversifying assessment practices.

3	Know how	Know how to prompt AI to align assessments with course goals.	Deciding/ selecting	Decide which formats foster fairness and access.	Appreciation Motivation	Appreciates format diversity as a right, not an exception.
2	Know why (Distant understanding	Know why format diversity supports inclusive assessment.	Using, Imitating	Apply AI tools to build flexible assessments.	Curiosity Perspective taking	Recognizes the role of flexibility in fairness
1	Know-what	Know that AI can generate varied assessment types.	Perceiving	Perceive assessment format limitations for certain learners.	Self oriented, neutral	Believes assessment is fixed and standard.

2.2.2 Bias-aware AI-supported grading and feedback: This sub-competence emphasizes using AI tools in grading and feedback provision with a critical, bias-aware approach. While AI can speed up rubric-based grading or suggest feedback, the HE teaching staff must ensure outputs are aligned with inclusive language, free from discriminatory patterns, and interpreted alongside human judgment.

Alignment to the LEVEL5 Methodology

	COGNITIVE/KNOWLEDGE		ACTIVITY		AFFECTIVE	
L	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement
5	Know where else (knowledge for transfer)	Know where else bias-aware AI grading can inform academic fairness policies.	Developing/ Constructing Transfer	Transfer bias-aware AI evaluation principles across courses and departments.	Incorporation Internalisation	Embeds inclusive evaluation as a systemic teaching norm
4	Know when (Implicit understanding	Know that students may perceive AI feedback differently based on identity or prior experience.	Discovering/ acting independently	Discover new combinations of AI-human feedback interaction.	Commitment Volition	Commits to building fair, transparent grading processes
3	Know how	Know how to review and adjust AI feedback outputs.	Deciding/ selecting	Decide when to override or contextualize AI grades.	Appreciation Motivation	Appreciates ethical grading as core to justice in education.
2	Know why (Distant understanding	Know why unchecked AI grading may reproduce bias.	Using, Imitating	Apply bias checks when using AI-generated evaluations.	Curiosity Perspective taking	Recognizes potential harms of automated evaluation.
1	Know-what	Know that AI can assist in grading and feedback.	Perceiving	Perceive biased or generic feedback patterns.	Self oriented, neutral	Trusts AI grades as neutral and sufficient.

Core competence 2.3: AI-Enabled Scaffolding and Learning Pathways

In inclusive education, providing learners with adaptive guidance is crucial for success. This competence centers on designing AI-enhanced scaffolding and individualized learning pathways that respect learners' starting points, pace, and preferred learning modalities. HE teaching staff use AI to dynamically adjust complexity, recommend resources, and detect learner stagnation. The focus is not automation for its own sake, but precision support that enhances autonomy and reduces drop-out risk among underserved populations.

Alignment to the LEVEL5 Methodology

●	COGNITIVE/KNOWLEDGE		ACTIVITY		AFFECTIVE	
L	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement
5	Know where else (knowledge for transfer)	Know where else AI-supported scaffolding is impactful (e.g., online MOOCs).	Developing/ Constructing Transfer	Transfer scaffolded pathways across subjects or levels.	Incorporation Internalisation	Advocate for scaffolded design in all AI-enhanced teaching.
4	Know when (Implicit understanding	Know that scaffolding supports zone of proximal development (ZPD).	Discovering/ acting indepen-dently	Discover novel AI methods for differentiated progression.	Commitment Volition	Commit to building layered support systems.
3	Know how	Know how to integrate AI into structured learning pathways.	Deciding/ selecting	Decide which scaffolds to automate or personalize.	Appreciation Motivation	Value adaptive scaffolding.
2	Know why (Distant understanding	Know why scaffolding improves learning progression.	Using, Imitating	Apply AI tools to guide learners step-by-step.	Curiosity Perspective taking	Acknowledge some learners need support.
1	Know-what	Know that AI can provide personalized scaffolds.	Perceiving	Perceive where students struggle without support.	Self oriented, neutral	Ignore need for incremental guidance.

Sub-competences:

2.3.1 Personalized learning pathways using AI: This sub-competence refers to the HE teaching staff's ability to design or use AI systems that generate customized learning sequences based on learner

profiles, past performance, and goals. It includes understanding algorithmic logic, pacing variation, and appropriate decision thresholds for redirection.

Alignment to the LEVEL5 Methodology

	COGNITIVE/KNOWLEDGE		ACTIVITY		AFFECTIVE	
L	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement
5	Know where else (knowledge for transfer)	Know where else adaptive pathways can promote equity (e.g., non-formal education, remedial programs).	Developing/ Constructing Transfer	Transfer adaptive pathway design to various learning platforms and course types	Incorporation Internalisation	Embeds personalization as a structural value in curriculum design
4	Know when (Implicit understanding	Know that such systems may reflect embedded assumptions about "ideal" learning	Discovering/ acting independently	Discover ways to co-create paths with learners using AI insights	Commitment Volition	Commits to designing for flexible learning progression
3	Know how	Know how to set criteria or use platforms to guide pathway recommendations	Deciding/ selecting	Decide how to intervene when AI paths don't align with learner goals	Appreciation Motivation	Appreciates pacing variation as an inclusion strategy
2	Know why (Distant understanding	Know why pacing and sequence matter for different learners	Using, Imitating	Apply learning path generators to offer multiple progression routes	Curiosity Perspective taking	Recognizes that learners have different journeys
1	Know-what	Know that AI systems can recommend individualized learning paths	Perceiving	Perceive learner stagnation or acceleration from AI suggestions	Self oriented, neutral	Sees learning progression as uniform.

2.3.2 Real-time scaffolding via AI recommendations: This sub-competence involves using AI tools to detect learner difficulty or disengagement and offer just-in-time supports—hints, resources, explanations—based on real-time analysis. The HE teaching staff integrates these tools into teaching while monitoring over-reliance or misinformation.

Alignment to the LEVEL5 Methodology

	COGNITIVE/KNOWLEDGE		ACTIVITY		AFFECTIVE	
L	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement
5	Know where else (knowledge for transfer)	Know where else real-time scaffolding applies (e.g., peer learning, assessment prep, mobile apps).	Developing/ Constructing Transfer	Transfer real-time scaffolding designs across instructional contexts	Incorporation Internalisation	Integrates proactive scaffolding into the instructional mindset
4	Know when (Implicit understanding	Know that real-time tools must be aligned with inclusive pedagogical intent	Discovering/ acting independently	Discover optimal points of intervention by testing tools	Commitment Volition	Commits to making invisible support visible and accessible
3	Know how	Know how to evaluate and edit AI recommendations	Deciding/ selecting	Decide when to step in with personalized assistance	Appreciation Motivation	Values just-in-time support as an inclusion lever
2	Know why (Distant understanding	Know why timing and relevance of scaffolding matter	Using, Imitating	Apply AI suggestions for just-in-time scaffolding	Curiosity Perspective taking	Recognizes when learners are hesitant or overwhelmed
1	Know-what	Know that AI can flag difficulties and suggest supports	Perceiving	Perceive moments when learners need support.	Self oriented, neutral	Relies on learners to seek help independently.

Core competence 2.4: AI-Aided Learning Resource Curation

A well-designed curriculum draws on a diversity of perspectives and formats. This competence focuses on the use of AI tools to identify, evaluate, and curate inclusive and accessible learning resources. HE teaching staff leverage AI to source multimedia content, verify relevance, and detect gaps in representation. The goal is to ensure that materials reflect the lived realities of all learners, provide multiple entry points to knowledge, and support universal design principles.

Alignment to the LEVEL5 Methodology

●	COGNITIVE/KNOWLEDGE		ACTIVITY		AFFECTIVE	
L	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement
5	Know where else (knowledge for transfer)	Know where else AI curation supports learning personalization.	Developing/ Constructing Transfer	Transfer resource strategies to support different curricula.	Incorporation Internalisation	Embrace curated learning as a strategic teaching tool.
4	Know when (Implicit understanding	Know that curation quality depends on training data and algorithms.	Discovering/ acting indepen-dently	Design custom AI-based curation pipelines.	Commitment Volition	Take responsibility for ethical, diverse resource use.

3	Know how	Know how to use AI for sourcing and evaluating materials.	Deciding/ selecting	Decide which AI-suggested resources to adopt or reject.	Appreciation Motivation	Appreciate high-quality, learner-aligned content.
2	Know why (Distant understanding	Know why quality and diversity of resources matter.	Using, Imitating	Apply AI tools for content recommendation.	Curiosity Perspective taking	Recognize AI curation needs oversight.
1	Know-what	Know that AI can curate or recommend resources.	Perceiving	Identify relevant learner needs.	Self oriented, neutral	Trust AI recommendations without critique.

Sub-competences:

2.4.1 Inclusive multimedia sourcing with AI assistance: This sub-competence involves using AI search and recommendation systems to locate videos, articles, case studies, and interactive tools that reflect cultural diversity, accessibility needs, and disciplinary relevance. HE teaching staff act as curators who balance AI efficiency with critical content review.

Alignment to the LEVEL5 Methodology

	COGNITIVE/KNOWLEDGE		ACTIVITY		AFFECTIVE	
L	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement
5	Know where else (knowledge for transfer)	Know where else inclusive curation is vital (e.g., institutional repositories, MOOCs, global partnerships).	Developing/ Constructing Transfer	Transfer curation methods to team collaboration, program reviews, or resource banks.	Incorporation Internalisation	Embeds critical curation as a pedagogical norm.
4	Know when (Implicit understanding	Know that AI search results reflect dominant data sources	Discovering/ acting independently	Discover non-obvious sources and voices using advanced AI queries.	Commitment Volition	Commits to inclusive content sourcing.
3	Know how	Know how to evaluate AI-recommended materials for bias, accessibility, and relevance	Deciding/ selecting	Decide what to include or exclude based on quality and inclusiveness	Appreciation Motivation	Values cultural and epistemological diversity in materials.
2	Know why (Distant understanding	Know why inclusive representation in content matters	Using, Imitating	Apply AI to gather diverse and accessible content.	Curiosity Perspective taking	Notices underrepresentation or exclusion in course resources.
1	Know-what	Know that AI tools can source multimedia learning content	Perceiving	Perceive gaps in existing resource representation	Self oriented, neutral	Views learning content as neutral and fixed.

2.4.2 Accessibility-aware AI filtering of resources: This sub-competence emphasizes using AI tools that support accessibility checks (e.g., alt text detection, readability scoring, captioning quality) when selecting or designing resources. HE teaching staff ensure that AI-curated materials align with universal design for learning (UDL) principles.

Alignment to the LEVEL5 Methodology

	COGNITIVE/KNOWLEDGE		ACTIVITY		AFFECTIVE	
L	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement
5	Know where else (knowledge for transfer)	Know where else accessibility-aware resource design applies (e.g., public engagement, cross-platform deployment).	Developing/ Constructing Transfer	Transfer accessible resource practices to curriculum reviews and faculty development.	Incorporation Internalisation	Integrates accessibility into educational design as a non-negotiable.
4	Know when (Implicit understanding	Know that accessibility needs intersect with language, ability, and tech literacy.	Discovering/ acting independently	Discover new formats that reach broader audiences.	Commitment Volition	Commits to applying accessibility standards consistently
3	Know how	Know how to use or cross-validate AI filters for accessibility criteria.	Deciding/ selecting	Decide how to revise, enhance, or replace problematic resources.	Appreciation Motivation	Values proactive design that anticipates diverse needs.
2	Know why (Distant understanding	Know why proactive accessibility review benefits all learners	Using, Imitating	Apply AI filters or tools to identify issues.	Curiosity Perspective taking	Recognizes when students are excluded due to format.
1	Know-what	Know that AI can help flag accessibility features or issues in content	Perceiving	Perceive accessibility barriers in content formats.	Self oriented, neutral	Views accessibility as an afterthought.

Core Competence 2.5: AI-Based Curriculum Evaluation and Improvement

Curriculum development is not a one-off task but a cyclical, evidence-informed process. This competence centers on the use of AI to continuously evaluate the effectiveness, inclusivity, and responsiveness of curriculum design. HE teaching staff use AI to gather feedback, detect equity gaps, and simulate alternative design scenarios. Rather than relying on post-hoc metrics, this competence promotes formative curriculum evolution, grounded in real-time and long-term data.

Alignment to the LEVEL5 Methodology

	COGNITIVE/KNOWLEDGE		ACTIVITY		AFFECTIVE	
L	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement
5	Know where else (knowledge for transfer)	Know where else AI-driven curriculum evaluation is practiced.	Developing/ Constructing Transfer	Transfer AI curriculum evaluation across departments or programs.	Incorporation Internalisation	Promote data-informed curriculum innovation institutionally.
4	Know when (Implicit understanding	Know that AI insights must be interpreted contextually.	Discovering/ acting indepen-dently	Design AI-integrated curriculum review systems.	Commitment Volition	Actively engage with AI-driven reviews.
3	Know how	Know how to use AI metrics to inform updates.	Deciding/ selecting	Decide on needed improvements based on AI insights.	Appreciation Motivation	Value AI feedback as useful for enhancement.
2	Know why (Distant understanding	Know why continuous curriculum review is essential.	Using, Imitating	Use AI to collect and interpret evaluation data.	Curiosity Perspective taking	Recognize the need for ongoing improvement.
1	Know-what	Know that AI can analyze curriculum effectiveness.	Perceiving	Notice gaps and misalignments in curricula.	Self oriented, neutral	Treat curriculum as fixed.

Sub-competences:

2.5.1 AI-supported curriculum improvement cycles: This sub-competence involves using AI tools to monitor course effectiveness during and after implementation. This includes analyzing student performance trends, dropout points, and feedback patterns. The HE teaching staff uses these insights to adapt the course iteratively with inclusion and accessibility as key evaluation indicators.

Alignment to the LEVEL5 Methodology

	COGNITIVE/KNOWLEDGE		ACTIVITY		AFFECTIVE	
L	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement
5	Know where else (knowledge for transfer)	Know where else improvement cycles matter (e.g., microcredentials, lifelong learning systems, national qualification frameworks).	Developing/ Constructing Transfer	Transfer continuous improvement strategies across programs and levels of instruction	Incorporation Internalisation	Embeds improvement cycles as a professional and institutional ethic.
4	Know when (Implicit understanding	Know that data alone doesn't capture learner experience—qualitative inquiry is needed	Discovering/ acting independently	Discover new intervention points by triangulating AI insights with human feedback	Commitment Volition	Commits to data-informed curriculum evolution
3	Know how	Know how to interpret AI-driven feedback loops	Deciding/ selecting	Decide on redesign priorities based on mixed data	Appreciation Motivation	Values ongoing evaluation for learner benefit
2	Know why (Distant understanding	Know why continuous curriculum improvement is important for equity	Using, Imitating	Apply AI tools to extract actionable trends	Curiosity Perspective taking	Recognizes the need for occasional revision
1	Know-what	Know that AI can track curriculum impact through performance and engagement data	Perceiving	Perceive patterns of struggle, stagnation, or disengagement	Self oriented, neutral	Views curriculum as static

2.5.2 Equity-focused AI curriculum simulations: This sub-competence emphasizes the use of AI-based simulation tools to forecast the effects of curricular changes on different learner populations. HE teaching staff use these tools to test for unintended exclusions or to model how changes might benefit marginalized groups before implementation.

Alignment to the LEVEL5 Methodology

	COGNITIVE/KNOWLEDGE		ACTIVITY		AFFECTIVE	
L	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement
5	Know where else (knowledge for transfer)	Know where else modeling supports fairness (e.g., admissions policies, scholarship distribution, course sequencing).	Developing/ Constructing Transfer	Transfer simulation-informed planning to institutional change processes	Incorporation Internalisation	Integrates simulation into long-term inclusive design practice
4	Know when (Implicit understanding	Know that simulations require careful calibration and inclusive assumptions	Discovering/ acting independently	Discover equity-sensitive patterns across learner profiles	Commitment Volition	Commits to pre-emptively identifying barriers
3	Know how	Know how to use simulation tools and interpret equity metrics	Deciding/ selecting	Decide how to adjust plans to reduce harm and maximize benefit	Appreciation Motivation	Appreciates simulation as a fairness-enhancing tool

2	Know why (Distant understanding	Know why preemptive modeling can identify equity risks.	Using, Imitating	Apply simulations to test curricular design decisions	Curiosity Perspective taking	Open to exploring "what if" curriculum impacts
1	Know-what	Know that AI models can simulate learning pathways under varying curricular conditions.	Perceiving	Perceive risks of exclusion in curricular proposals	Self oriented, neutral	Unaware of design consequences across learner groups

Type 3: Ethical, Inclusive, and Data-Literate AI Use Competences

How HE teaching staff engage with ethical, inclusive, and data-conscious practices in AI-supported environments.

Core competence 3.1: Critical AI Literacy in Higher Education Teaching
In a context where AI technologies increasingly shape teaching and learning, HE teaching staff must go beyond tool use and develop critical awareness of how these systems work—and who they serve. This competence focuses on HE teaching staff' ability to understand, explain, and critique the foundations of AI systems: data sources, model assumptions, limitations, and socio-political impacts. It empowers HE teaching staff to make informed choices, challenge problematic applications, and educate students accordingly.

Alignment to the LEVEL5 Methodology

●	COGNITIVE/KNOWLEDGE		ACTIVITY		AFFECTIVE	
L	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement
5	Know where else (knowledge for transfer)	Know where critical AI literacy can challenge dominant narratives and practices.	Developing/ Constructing Transfer	Transfer critical literacy into institutional or public discourse.	Incorporation Internalisation	Advocacy for critical AI literacy across the curriculum.
4	Know when (Implicit understanding	Know that AI systems reflect political, social, and economic ideologies.	Discovering/ acting indepen-dently	Discover alternative tools or methodologies.	Commitment Volition	Ongoing commitment to interrogating AI use.
3	Know how	Know how to evaluate AI tools and their impact on learning.	Deciding/ selecting	Decide when to challenge or reject AI solutions.	Appreciation Motivation	Appreciation for skepticism and critical analysis.
2	Know why (Distant understanding	Know why critical understanding of AI is necessary.	Using, Imitating	Apply critical questions to AI's educational role.	Curiosity Perspective taking	Awareness of AI's limitations and potential risks.
1	Know-what	Know that AI tools are being used in education.	Perceiving	Identify surface-level features of educational AI tools.	Self oriented, neutral	Passive acceptance of AI claims.

Sub-competences:

3.1.1 Understanding how AI works in educational tools: This sub-competence refers to a basic but essential grasp of how AI-powered systems operate—what data they process, what algorithms they use, and how outputs are generated. It equips HE teaching staff with the vocabulary and conceptual clarity needed to use AI responsibly in pedagogy.

Alignment to the LEVEL5 Methodology

	COGNITIVE/KNOWLEDGE		ACTIVITY		AFFECTIVE	
L	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement
5	Know where else (knowledge for transfer)	Know where else such understanding is needed (e.g., student guidance, tool selection, policy discussions).	Developing/ Constructing Transfer	Transfer AI literacy to student instruction or institutional decision-making.	Incorporation Internalisation	Embeds critical AI literacy into teaching and professional identity.
4	Know when (Implicit understanding	Know that these systems are not neutral and reflect design choices.	Discovering/ acting independently	Discover biases or assumptions embedded in tool design.	Commitment Volition	Commits to staying informed about AI developments.
3	Know how	Know how to explain basic algorithmic and data principles behind educational AI tools	Deciding/ selecting	Decide whether a tool aligns with pedagogical and ethical goals.	Appreciation Motivation	Appreciates the value of demystifying AI.
2	Know why (Distant understanding	Know why understanding AI logic is important for responsible use	Using, Imitating	Apply AI concepts in evaluating teaching tools.	Curiosity Perspective taking	Recognizes that technical systems shape educational practice.
1	Know-what	Know that AI tools process data to make decisions or predictions.	Perceiving	Perceive what AI features are operating in common tools.	Self oriented, neutral	Views AI tools as mysterious or irrelevant to teaching.

3.1.2 Interpreting AI-generated outputs with skepticism: This sub-competence focuses on the ability to read AI-generated summaries, recommendations, and predictions critically. Rather than accepting them as fact, HE teaching staff evaluate their plausibility, source quality, internal consistency, and potential bias.

Alignment to the LEVEL5 Methodology

	COGNITIVE/KNOWLEDGE		ACTIVITY		AFFECTIVE	
L	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement
5	Know where else (knowledge for transfer)	Know where else interpretive skepticism matters (e.g., grading, admissions, career guidance tools).	Developing/ Constructing Transfer	Transfer this approach across all AI-mediated processes in academia	Incorporation Internalisation	Incorporates skepticism as a pedagogical and ethical norm
4	Know when (Implicit understanding	Know that over-trust in AI may lead to harm or inequity.	Discovering/ acting independently	Discover ways to teach students about interpretive caution	Commitment Volition	Commits to fostering critical AI engagement
3	Know how	Know how to assess AI outputs using human judgment and cross-checking.	Deciding/ selecting	Decide when to override AI-based suggestions	Appreciation Motivation	Values human verification of algorithmic claims
2	Know why (Distant understanding	Know why critical interpretation is essential for pedagogical trust.	Using, Imitating	Apply verification strategies (e.g., triangulation, benchmarking).	Curiosity Perspective taking	Suspects occasional AI error
1	Know-what	Know that AI outputs can be incorrect or misleading.	Perceiving	Perceive signs of inconsistency or error in AI outputs.	Self oriented, neutral	Trusts AI outputs as authoritative

Core competence 3.2: Data Ethics and Privacy in Teaching with AI

AI tools in education depend on massive amounts of learner data—often gathered passively, sometimes without full transparency. This competence addresses the HE teaching staff's responsibility to protect student data, ensure informed consent, and mitigate surveillance or profiling risks. It also emphasizes cultivating ethical awareness among students regarding their digital footprint in AI-mediated environments.

Alignment to the LEVEL5 Methodology

●	COGNITIVE/KNOWLEDGE		ACTIVITY		AFFECTIVE	
L	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement
5	Know where else (knowledge for transfer)	Know where data ethics apply beyond education (e.g., employment, healthcare).	Developing/ Constructing Transfer	Transfer ethical frameworks into cross-sector collaborations	Incorporation Internalisation	Promote privacy and ethics as core academic values.
4	Know when (Implicit understanding	Know that ethical data use connects with legal and moral frameworks.	Discovering/ acting indepen-dently	Develop policies or safeguards for ethical AI use.	Commitment Volition	Commit to responsible data stewardship.
3	Know how	Know how to assess AI tools' data practices.	Deciding/ selecting	Decide on consent practices and data access.	Appreciation Motivation	Value ethical transparency in AI use.
2	Know why (Distant understanding	Know why privacy, consent, and data protection matter.	Using, Imitating	Apply ethical guidelines when selecting tools.	Curiosity Perspective taking	Recognition that data management impacts trust.
1	Know-what	Know that AI tools use learner data.	Perceiving	Detect possible data risks in AI tools.	Self oriented, neutral	Indifference to learner data handling.

Sub-competences:

3.2.1 Safeguarding learner data and consent: This sub-competence concerns understanding what data AI tools collect, how that data is stored or shared, and how to ensure learners are informed and protected. It requires HE teaching staff to engage with platform privacy policies, question consent practices, and advocate for learner control over their data.

Alignment to the LEVEL5 Methodology

	COGNITIVE/KNOWLEDGE		ACTIVITY		AFFECTIVE	
L	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement
5	Know where else (knowledge for transfer)	Know where else data rights intersect with teaching (e.g., LMS settings, institutional analytics, proctoring tools).	Developing/ Constructing Transfer	Transfer privacy-conscious design to course development and advising	Incorporation Internalisation	Embeds data ethics in pedagogical and professional commitments
4	Know when (Implicit understanding	Know that privacy violations can reinforce systemic inequities	Discovering/ acting independently	Discover alternatives or custom settings to enhance student control	Commitment Volition	Commits to prioritizing privacy in tool use
3	Know how	Know how to assess platform data practices and explain them to learners	Deciding/ selecting	Decide whether a platform's practices are acceptable	Appreciation Motivation	Values transparency and agency in digital spaces
2	Know why (Distant understanding	Know why student consent and privacy matter in educational AI use	Using, Imitating	Apply consent principles and data minimization in tool selection	Curiosity Perspective taking	Acknowledges that data use may affect students

1	Know-what	Know that AI systems collect, store, and process user data	Perceiving	Perceive what data flows are active in AI tools.	Self oriented, neutral	Unaware of AI data practices

3.2.2 Addressing algorithmic profiling and student autonomy: This sub-competence focuses on challenging how AI systems may "profile" students—labeling them as at-risk, underperforming, or disengaged—based on behavioral data. HE teaching staff critically examine these labels, prevent their overuse, and support learners' rights to self-definition.

Alignment to the LEVEL5 Methodology

	COGNITIVE/KNOWLEDGE		ACTIVITY		AFFECTIVE	
L	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement
5	Know where else (knowledge for transfer)	Know where else profiling mechanisms need scrutiny (e.g., career services, admissions AI, automated placement).	Developing/ Constructing Transfer	Transfer this approach to academic policy and institutional discussions	Incorporation Internalisation	Advocates for institutional safeguards against harmful profiling
4	Know when (Implicit understanding	Know that over-reliance on data labels can harm motivation and fairness	Discovering/ acting independently	Discover ways to empower learners to contest or interpret their profiles	Commitment Volition	Commits to resisting deterministic interpretations of AI data
3	Know how	Know how to detect profiling dynamics in dashboards and recommendations	Deciding/ selecting	Decide when to disclose, reframe, or resist algorithmic labels	Appreciation Motivation	Values student autonomy and right to reinterpret data
2	Know why (Distant understanding	Know why profiling may reproduce bias or lower expectations	Using, Imitating	Apply strategies to contextualize or challenge automated classifications	Curiosity Perspective taking	Questions the accuracy or implications of such labels
1	Know-what	Know that AI tools can profile students using behavioral and historical data	Perceiving	Perceive when students are being categorized or predicted by AI.	Self oriented, neutral	Accepts algorithmic labels as neutral descriptors

Core competence 3.3: Promoting AI Fairness and Social Justice in Teaching Practice

As HE teaching staff adopt AI tools, they must also confront the broader social consequences these technologies carry. This competence emphasizes the role of higher education in fostering critical citizenship—where learners and HE teaching staff recognize AI's potential to replicate or challenge injustice. It calls for intentional teaching and decision-making that interrogates whose knowledge is represented, whose voices are marginalized, and how power operates in algorithmic systems.

Alignment to the LEVEL5 Methodology

●	COGNITIVE/KNOWLEDGE		ACTIVITY		AFFECTIVE	
L	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement
5	Know where else (knowledge for transfer)	Know where justice-centered AI design is applied across sectors.	Developing/ Constructing Transfer	Transfer social justice principles into AI-related teaching and research.	Incorporation Internalisation	Internalize justice as a pedagogical imperative.
4	Know when (Implicit understanding	Know that AI mirrors systemic injustices.	Discovering/ acting indepen-dently	Create AI practices aligned with equity goals	Commitment Volition	Commit to socially just AI use.
3	Know how	Know how to identify and address AI bias in education.	Deciding/ selecting	Decide how to mitigate biased algorithms.	Appreciation Motivation	Appreciate the importance of fairness.
2	Know why (Distant understanding	Know why fairness and equity must guide AI use.	Using, Imitating	Apply fairness checks to AI recommendations.	Curiosity Perspective taking	Acknowledge structural bias exists in technology.
1	Know-what	Know that AI can perpetuate inequality.	Perceiving	Perceive when AI outputs may be unjust.	Self oriented, neutral	Accept neutrality in AI systems.

Sub-competences:

3.3.1 Identifying bias and exclusion in AI systems: This sub-competence focuses on examining how AI tools may marginalize learners—through linguistic, cultural, racial, or gendered bias embedded in training data, algorithms, or outputs. HE teaching staff learn to evaluate tools not just for functionality but for fairness, and to involve students in that critique.

Alignment to the LEVEL5 Methodology

	COGNITIVE/KNOWLEDGE		ACTIVITY		AFFECTIVE	
L	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement

5	Know where else (knowledge for transfer)	Know where else bias manifests across the educational AI ecosystem (e.g., plagiarism detection, predictive admissions).	Developing/ Constructing Transfer	Transfer bias-identification practices to broader teaching, research, and policy contexts	Incorporation Internalisation	Embeds critical AI pedagogy into their teaching identity
4	Know when (Implicit understanding	Know that neutrality in technology is often an illusion masking power	Discovering/ acting independently	Discover patterns of marginalization through collaborative inquiry with students	Commitment Volition	Commits to exposing and addressing algorithmic injustice
3	Know how	Know how to identify biased outputs or flawed assumptions in AI tools	Deciding/ selecting	Decide whether a tool should be used, challenged, or redesigned.	Appreciation Motivation	Values inclusive design as a pedagogical responsibility
2	Know why (Distant understanding	Know why bias in educational technologies reinforces exclusion.	Using, Imitating	Apply fairness checklists or ethical audits to tools.	Curiosity Perspective taking	Begins to recognize systemic dimensions of exclusion
1	Know-what	Know that AI can reflect systemic bias	Perceiving	Perceive signs of bias or exclusion in AI outputs.	Self oriented, neutral	Views bias as rare or technical

3.3.2 Teaching students to question AI systems: This sub-competence is about enabling learners to become critical users of AI—not passive consumers. HE teaching staff incorporate AI literacy into teaching so students learn to interrogate the tools they use, understand how AI shapes their lives, and imagine alternative futures rooted in justice and agency.

Alignment to the LEVEL5 Methodology

	COGNITIVE/KNOWLEDGE		ACTIVITY		AFFECTIVE	
L	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement
5	Know where else (knowledge for transfer)	Know where else student empowerment intersects with AI (e.g., activism, civic tech, ethics in STEM).	Developing/ Constructing Transfer	Transfer critical AI teaching practices to community, interdisciplinary, or policy engagements	Incorporation Internalisation	Makes critical AI education part of their transformative pedagogical mission
4	Know when (Implicit understanding	Know that teaching AI critique requires emotional and political courage	Discovering/ acting independently	Discover new frameworks for AI literacy that include indigenous, feminist, or decolonial perspectives	Commitment Volition	Commits to fostering student voice and agency in digital systems
3	Know how	Know how to scaffold student inquiry into AI systems	Deciding/ selecting	Decide how to integrate AI critique across disciplinary boundaries.	Appreciation Motivation	Values AI critique as central to education
2	Know why (Distant understanding	Know why critical AI literacy is essential for 21st-century citizenship	Using, Imitating	Apply inquiry-based learning to AI case studies or tools.	Curiosity Perspective taking	Acknowledges students' need for critical awareness
1	Know-what	Know that students often interact with AI without understanding it.	Perceiving	Perceive students' misconceptions or overreliance on AI.	Self oriented, neutral	Views AI literacy as a technical add-on.

Core competence 3.4: Transparency and Accountability in AI Use

In any educational environment that uses AI, HE teaching staff must take responsibility not only for what tools are used but how they are introduced, explained, and justified. This competence focuses on cultivating transparency with students and peers—clearly communicating the purpose, functioning, and boundaries of AI systems. It also involves mechanisms for feedback, appeal, and revision when AI causes confusion, error, or harm.

Alignment to the LEVEL5 Methodology

●	COGNITIVE/KNOWLEDGE		ACTIVITY		AFFECTIVE	
L	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement
5	Know where else (knowledge for transfer)	Know where transparency models apply in broader institutional settings.	Developing/ Constructing Transfer	Institutionalize transparency practices in AI implementation.	Incorporation Internalisation	Embrace shared responsibility for AI impact.
4	Know when (Implicit understanding	Know that accountability frameworks relate to power and governance.	Discovering/ acting indepen-dently	Build feedback mechanisms for AI tool evaluation.	Commitment Volition	Advocate for transparent pedagogy.
3	Know how	Know how to communicate AI decisions to learners.	Deciding/ selecting	Decide when disclosure is needed.	Appreciation Motivation	Value openness in AI practices.
2	Know why (Distant understanding	Know why transparency matters for learner agency and trust.	Using, Imitating	Apply plain-language explanations of AI function.	Curiosity Perspective taking	Recognize that accountability builds trust.
1	Know-what	Know that AI processes are often opaque.	Perceiving	Perceive lack of clarity in AI operations.	Self oriented, neutral	Disregard user rights to understand AI.

Sub-competences:

3.4.1 Explaining AI use and implications to students: This sub-competence emphasizes open, honest dialogue with learners about which AI tools are in use, how they work, what data they rely on, and what students should expect. The HE teaching staff models ethical disclosure and invites student questions or critique.

Alignment to the LEVEL5 Methodology

	COGNITIVE/KNOWLEDGE		ACTIVITY		AFFECTIVE	
L	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement
5	Know where else (knowledge for transfer)	Know where else disclosure is essential (e.g., syllabi, academic policies, institutional tech rollouts).	Developing/ Constructing Transfer	Transfer transparency practices to peer education, cross-functional teams, and public settings	Incorporation Internalisation	Embeds transparency as a principle across all digital teaching decisions
4	Know when (Implicit understanding	Know that failing to disclose AI use may violate ethical and legal principles	Discovering/ acting independently	Discover metaphors, visualizations, or examples that demystify AI systems.	Commitment Volition	Commits to proactive disclosure of AI use.
3	Know how	Know how to explain tool purposes, mechanics, and limits in accessible language	Deciding/ selecting	Decide how and when to initiate conversations about AI implications.	Appreciation Motivation	Values honesty as a foundation of ethical pedagogy
2	Know why (Distant understanding	Know why transparency builds trust in digital learning environments	Using, Imitating	Apply communication strategies to make AI use visible.	Curiosity Perspective taking	Recognizes that transparency can improve learning experience
1	Know-what	Know that students are affected by AI without always knowing how	Perceiving	Perceive gaps in student understanding about AI's role.	Self oriented, neutral	Assumes students don't need to know about backend systems.

3.4.2 Responding to harm, error, or resistance related to AI: This sub-competence concerns taking responsibility when AI systems malfunction, cause confusion, or provoke resistance. HE teaching staff must have protocols for revising tools, acknowledging error, or engaging in ethical dialogue when learners are negatively affected by AI-driven practices.

Alignment to the LEVEL5 Methodology

	COGNITIVE/KNOWLEDGE		ACTIVITY		AFFECTIVE	
L	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement
5	Know where else (knowledge for transfer)	Know where else accountability frameworks apply (e.g., disability accommodations, academic integrity systems).	Developing/ Constructing Transfer	Transfer practices of redress and dialogue to system-wide improvement efforts.	Incorporation Internalisation	Embeds harm-reduction and co-accountability as part of institutional culture.
4	Know when (Implicit understanding	Know that defensiveness or denial can erode trust	Discovering/ acting independently	Discover institutional gaps in accountability processes.	Commitment Volition	Commits to ethical responsiveness and system improvement.
3	Know how	Know how to identify signs of student distress, confusion, or resistance.	Deciding/ selecting	Decide on corrective actions in partnership with students.	Appreciation Motivation	Values accountability as part of relational pedagogy.
2	Know why (Distant understanding	Know why acknowledging and repairing harm is part of inclusive practice	Using, Imitating	Apply conflict resolution and feedback channels.	Curiosity Perspective taking	Acknowledges that AI failure affects trust and equity.
1	Know-what	Know that AI tools can produce flawed or biased outcomes	Perceiving	Perceive when AI has contributed to harm or exclusion.	Self oriented, neutral	Sees error as unavoidable and unremarkable.

Core competence 3.5: Building Ethical and Inclusive AI Teaching Cultures

AI adoption in higher education is not just a technical issue—it's a cultural and ethical one. This competence focuses on the HE teaching staff's role in shaping institutional norms and practices that prioritize ethical, inclusive, and critically informed use of AI. It moves beyond the individual classroom to involve curriculum design, faculty development, and advocacy for equitable policies.

Alignment to the LEVEL5 Methodology

●	COGNITIVE/KNOWLEDGE		ACTIVITY		AFFECTIVE	
L	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement

5	Know where else (knowledge for transfer)	Know where inclusive digital cultures are being cultivated.	Developing/ Constructing Transfer	Transfer cultural leadership models across departments.	Incorporation Internalisation	Embody ethical culture as a long-term commitment.
4	Know when (Implicit understanding	Know that inclusive AI teaching cultures require systemic collaboration.	Discovering/ acting indepen-dently	Design initiatives for culture-building around AI.	Commitment Volition	Actively foster inclusion and integrity.
3	Know how	Know how to model ethical leadership in AI use.	Deciding/ selecting	Decide on actions that promote ethical leadership.	Appreciation Motivation	Appreciate ethical leadership in digital pedagogy.
2	Know why (Distant understanding	Know why ethical and inclusive cultures must guide AI adoption.	Using, Imitating	Apply inclusive frameworks to AI practices.	Curiosity Perspective taking	Recognize teaching cultures shape AI use.
1	Know-what	Know that AI affects teaching norms and practices.	Perceiving	Sense ethical tensions in AI use.	Self oriented, neutral	View AI as neutral infrastructure.

Sub-competences:

3.5.1 Participating in ethical AI policy and governance: This sub-competence involves engaging in institutional discussions about AI adoption—bringing pedagogical, ethical, and inclusion-based concerns into policy formation. HE teaching staff act as translators between technological possibilities and human-centered priorities.

Alignment to the LEVEL5 Methodology

	COGNITIVE/KNOWLEDGE		ACTIVITY		AFFECTIVE	
L	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement
5	Know where else (knowledge for transfer)	Know where else policy engagement matters (e.g., government, accreditation, public-private partnerships).	Developing/ Constructing Transfer	Transfer participatory governance models to broader change initiatives.	Incorporation Internalisation	Embeds civic engagement and ethics in academic leadership
4	Know when (Implicit understanding	Know that ethical governance requires long-term, cross-disciplinary commitment	Discovering/ acting independently	Discover cross-role partnerships to shape inclusive tech adoption.	Commitment Volition	Commits to ongoing participation in ethical governance
3	Know how	Know how to raise pedagogical and equity issues in AI committees or consultations.	Deciding/ selecting	Decide how to advocate effectively within policy spaces.	Appreciation Motivation	Values HE teaching staff agency in shaping institutional futures
2	Know why (Distant understanding	Know why HE teaching staff voice is essential in governance processes.	Using, Imitating	Apply frameworks for ethical technology governance.	Curiosity Perspective taking	Recognizes the stakes of AI governance for teaching
1	Know-what	Know that institutions develop AI strategies and policies.	Perceiving	Perceive gaps or risks in institutional AI policy.	Self oriented, neutral	Sees AI policy as administrative or irrelevant.

3.5.2 Fostering peer and student dialogue on AI ethics: This sub-competence highlights the HE teaching staff's role as a convener and facilitator of critical conversations—within departments, faculties, and classrooms—on the ethics, risks, and societal consequences of AI. Dialogue becomes a collective process of sense-making and transformation.

Alignment to the LEVEL5 Methodology

	COGNITIVE/KNOWLEDGE		ACTIVITY		AFFECTIVE	
L	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement
5	Know where else (knowledge for transfer)	Know where else dialogical ethics apply (e.g., interdisciplinary teams, co-teaching, public events).	Developing/ Constructing Transfer	Transfer dialogical ethics practices to wider professional and civic roles	Incorporation Internalisation	Integrates collective reflection into their professional and teaching identity
4	Know when (Implicit understanding	Know that discomfort, disagreement, and emotion are part of ethical learning	Discovering/ acting independently	Discover co-learning opportunities through student and colleague exchange	Commitment Volition	Commits to fostering critical conversation in AI contexts
3	Know how	Know how to structure spaces for ethical dialogue across hierarchies	Deciding/ selecting	Decide how to scaffold engagement on controversial AI issues	Appreciation Motivation	Values dialogue as a transformative tool
2	Know why (Distant understanding	Know why diverse perspectives on AI are vital to inclusive practice	Using, Imitating	Apply facilitation methods that encourage respectful, critical dialogue	Curiosity Perspective taking	Acknowledges ethics as a shared concern.
1	Know-what	Know that ethical understanding develops through conversation	Perceiving	Perceive readiness or resistance to ethical reflection	Self oriented, neutral	Sees ethics as personal opinion

Type 4: AI-Driven Professional Development and Collaboration Competences

How HE teaching staff uses AI to develop professionally, collaborate, and enhance institutional practices

Core competence 4.1: AI-Supported Reflective Professional Development
In an educational landscape marked by rapid technological evolution, ongoing professional learning is not optional—it is essential. This competence highlights the use of AI to support reflective, personalized, and data-informed professional growth. It includes using AI to analyze teaching patterns, generate development plans, and access tailored learning resources. Crucially, this development is not just technical—it's pedagogical, ethical, and inclusive in orientation.

Alignment to the LEVEL5 Methodology

●	COGNITIVE/KNOWLEDGE		ACTIVITY		AFFECTIVE	
L	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement
5	Know where else (knowledge for transfer)	Know where else AI-supported reflection is advancing professional practices.	Developing/ Constructing Transfer	Transfer reflective models into collaborative or institutional settings.	Incorporation Internalisation	Internalize reflective growth as an ongoing responsibility.
4	Know when (Implicit understanding	Know that reflective development links with lifelong learning models.	Discovering/ acting indepen-dently	Design personalized development pathways using AI.	Commitment Volition	Actively seek feedback and reflection via AI.
3	Know how	Know how to use AI tools for feedback and self-assessment.	Deciding/ selecting	Decide how to act on AI-informed insights.	Appreciation Motivation	Appreciate AI's potential in supporting development.
2	Know why (Distant understanding	Know why reflective practice is crucial for growth.	Using, Imitating	Apply AI for feedback collection and analysis.	Curiosity Perspective taking	Acknowledge importance of professional reflection.
1	Know-what	Know that AI can support educator reflection.	Perceiving	Recognize areas for personal growth.	Self oriented, neutral	Disinterest in self-review.

Sub-competences:

4.1.1 Using AI for personal teaching analytics: This sub-competence involves using AI tools to analyze one's own teaching behaviors, student engagement metrics, or classroom dynamics for professional self-awareness. HE teaching staff interprets dashboards or feedback engines to identify blind spots, biases, or opportunities for growth.

Alignment to the LEVEL5 Methodology

	COGNITIVE/KNOWLEDGE		ACTIVITY		AFFECTIVE	
L	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement
5	Know where else (knowledge for transfer)	Know where else such reflective analytics can improve practice (e.g., peer review, mentoring, institutional benchmarking).	Developing/ Constructing Transfer	Transfer reflective analytic practices across courses or peer learning groups	Incorporation Internalisation	Integrates reflective analytics into professional identity
4	Know when (Implicit understanding	Know that analytics should be contextualized with qualitative insights	Discovering/ acting independently	Discover personal strengths and areas for improvement through data	Commitment Volition	Commits to ongoing self-monitoring and improvement
3	Know how	Know how to read and reflect on teaching data critically	Deciding/ selecting	Decide on priorities for change or experimentation	Appreciation Motivation	Values self-reflection and data-informed growth
2	Know why (Distant understanding	Know why self-analysis supports professional growth	Using, Imitating	Apply insights to adjust teaching practices	Curiosity Perspective taking	Recognizes potential for teaching improvement
1	Know-what	Know that AI tools can track teaching interactions and outcomes	Perceiving	Perceive teaching patterns from AI reports	Self oriented, neutral	Dismisses personal data as irrelevant

4.1.2 Curating AI-based learning pathways for upskilling: This sub-competence focuses on identifying and engaging with AI-powered professional development content tailored to individual goals—e.g., microlearning, adaptive modules, personalized reading lists. The HE teaching staff curates and sequences their own development journey using AI recommendations.

Alignment to the LEVEL5 Methodology

	COGNITIVE/KNOWLEDGE		ACTIVITY		AFFECTIVE	
L	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement
5	Know where else (knowledge for transfer)	Know where else personalized development applies (e.g., communities of practice, academic portfolios).	Developing/ Constructing Transfer	Transfer AI-enabled curation to support others (e.g., team learning, mentoring).	Incorporation Internalisation	Embeds AI-enabled upskilling into one's evolving academic practice.
4	Know when (Implicit understanding	Know that learning must align with inclusive teaching values, not just trends.	Discovering/ acting independently	Discover new themes and approaches through exploration	Commitment Volition	Commits to lifelong, self-directed learning.
3	Know how	Know how to select and evaluate AI-suggested content.	Deciding/ selecting	Decide which content and pathways align with professional goals.	Appreciation Motivation	Values professional development as intellectual growth.
2	Know why (Distant understanding	Know why targeted upskilling supports responsive teaching	Using, Imitating	Apply AI to source relevant learning materials.	Curiosity Perspective taking	Acknowledges the need for regular updates.
1	Know-what	Know that AI can recommend personalized professional learning resources	Perceiving	Perceive gaps in one's knowledge or skill base.	Self oriented, neutral	Views upskilling as burdensome or institutional demand.

Core competence 4.2: AI-Enhanced Collegial Collaboration and Knowledge Sharing

In increasingly networked academic environments, collaboration among HE teaching staff is key to innovation and institutional resilience. This competence focuses on leveraging AI to support collegial exchange, co-creation of knowledge, and distributed professional learning. From shared document authorship to knowledge graph generation, AI can act as a facilitator of meaningful collaboration—when used ethically and reflectively.

Alignment to the LEVEL5 Methodology

●	COGNITIVE/KNOWLEDGE		ACTIVITY		AFFECTIVE	
L	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement
5	Know where else (knowledge for transfer)	Know where AI collaboration tools are transforming academic teams.	Developing/ Constructing Transfer	Scale knowledge-sharing practices institutionally.	Incorporation Internalisation	Advocate for collegiality as a professional standard.
4	Know when (Implicit understanding	Know that collaborative AI environments foster communities of practice.	Discovering/ acting indepen-dently	Create shared AI-supported repositories or workspaces.	Commitment Volition	Contribute proactively in AI-supported collaboration.
3	Know how	Know how to use AI tools for knowledge exchange	Deciding/ selecting	Decide how to mediate or enhance collaboration.	Appreciation Motivation	Value knowledge sharing.
2	Know why (Distant understanding	Know why shared expertise strengthens teaching.	Using, Imitating	Use AI to share ideas and resources.	Curiosity Perspective taking	Recognize benefit of peer insights.
1	Know-what	Know that AI can facilitate peer collaboration	Perceiving	Recognize collaboration opportunities.	Self oriented, neutral	View teaching as solitary work.

Sub-competences:

4.2.1 Co-creating teaching resources with AI and peers: This sub-competence involves using AI platforms (e.g., collaborative writing assistants, template generators, version control tools) to co-develop syllabi, assessments, case studies, and open educational resources with colleagues. The process combines human insight with AI-supported efficiency.

Alignment to the LEVEL5 Methodology

	COGNITIVE/KNOWLEDGE		ACTIVITY		AFFECTIVE	
L	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement
5	Know where else (knowledge for transfer)	Know where else AI-supported co-creation is emerging (e.g., interdisciplinary projects, global course networks).	Developing/ Constructing Transfer	Transfer collaborative practices to cross-institutional and transdisciplinary contexts.	Incorporation Internalisation	Integrates collaborative co-creation as a core professional identity.
4	Know when (Implicit understanding	Know that co-creation must respect intellectual property, authorship, and cultural perspectives.	Discovering/ acting independently	Discover creative synergies through collaborative iteration	Commitment Volition	Commits to relational, dialogic approaches to innovation.
3	Know how	Know how to manage AI-supported collaboration workflows	Deciding/ selecting	Decide how to divide roles between humans and machines.	Appreciation Motivation	Values diversity of thought and co-creation.

2	Know why (Distant understanding	Know why collaborative resource design promotes shared ownership and innovation	Using, Imitating	Apply AI tools to streamline co-development of content.	Curiosity Perspective taking	Open to trying shared design with support tools
1	Know-what	Know that AI tools can support joint authorship of teaching materials.	Perceiving	Perceive opportunities for shared design using AI.	Self oriented, neutral	Prefers working independently; skeptical of AI collaboration

4.2.2 Sharing teaching insights through AI-enhanced networks: This sub-competence refers to engaging in communities of practice or professional learning networks where AI helps organize, filter, and disseminate teaching reflections, resources, and innovations. HE teaching staff use recommendation engines, semantic mapping, or tagging systems to amplify collective knowledge.

Alignment to the LEVEL5 Methodology

	COGNITIVE/KNOWLEDGE		ACTIVITY		AFFECTIVE	
L	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement
5	Know where else (knowledge for transfer)	Know where else collective AI-supported knowledge work operates (e.g., academic social media, global teaching repositories).	Developing/ Constructing Transfer	Transfer knowledge-sharing habits to institutional leadership or mentorship roles.	Incorporation Internalisation	Embeds sharing and networked collaboration into academic identity
4	Know when (Implicit understanding	Know that knowledge sharing must be inclusive, respectful, and reciprocal.	Discovering/ acting independently	Discover latent themes and trends through AI-organized content.	Commitment Volition	Commits to cultivating inclusive knowledge ecosystems.
3	Know how	Know how to use AI to structure and enhance knowledge exchange	Deciding/ selecting	Decide how to share knowledge in ways that foster engagement.	Appreciation Motivation	Appreciates collective intelligence and peer learning.
2	Know why (Distant understanding	Know why communities of practice are vital for professional growth.	Using, Imitating	Apply AI platforms to contribute, search, and filter insights.	Curiosity Perspective taking	Acknowledges value in mutual exchange
1	Know-what	Know that AI tools can surface and distribute peer knowledge	Perceiving	Perceive shared concerns or needs in HE teaching staff communities.	Self oriented, neutral	Sees knowledge sharing as optional or risky.

Core competence 4.3: AI for Inclusive Institutional Development and Innovation

Higher education institutions are not static—they evolve through the contributions of their members. This competence focuses on how HE teaching staff can use AI to contribute to institutional improvement initiatives, innovation labs, and strategic development efforts, always with inclusion, access, and equity as guiding principles. HE teaching staff act as both users and shapers of institutional change, supported by AI systems that surface patterns, simulate decisions, and foster collective insight.

Alignment to the LEVEL5 Methodology

●	COGNITIVE/KNOWLEDGE		ACTIVITY		AFFECTIVE	
L	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement
5	Know where else (knowledge for transfer)	Know where inclusive AI-led reforms are being implemented.	Developing/ Constructing Transfer	Transfer innovation models across institutional contexts.	Incorporation Internalisation	Embody inclusiveness as foundational to change.
4	Know when (Implicit understanding	Know that inclusive innovation requires multi-level coordination.	Discovering/ acting indepen-dently	Lead inclusive AI projects or pilots.	Commitment Volition	Take initiative in institutional innovation.
3	Know how	Know how to engage with AI for strategic planning.	Deciding/ selecting	Decide on inclusive strategies for innovation.	Appreciation Motivation	Appreciate ethical innovation through AI.
2	Know why (Distant understanding	Know why inclusivity must be part of educational innovation	Using, Imitating	Apply AI insights to inform planning.	Curiosity Perspective taking	Recognize everyone contributes to inclusive development.
1	Know-what	Know that AI influences institutional policies and innovation.	Perceiving	Recognize institutional innovation needs.	Self oriented, neutral	View innovation as top-down

Sub-competences:

4.3.1 Participating in AI-driven institutional innovation processes: This sub-competence emphasizes how HE teaching staff can actively contribute to AI-supported strategic planning and innovation

initiatives within their institutions—whether for curriculum reform, student success systems, or resource allocation—while ensuring that ethical and inclusive principles are embedded throughout.

Alignment to the LEVEL5 Methodology

	COGNITIVE/KNOWLEDGE		ACTIVITY		AFFECTIVE	
L	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement
5	Know where else (knowledge for transfer)	Know where else HE teaching staff-led innovation impacts systems (e.g., equity dashboards, blended learning models, student support algorithms).	Developing/ Constructing Transfer	Transfer leadership practices to broader sectoral or policy innovation forums.	Incorporation Internalisation	Integrates institutional transformation into professional mission.
4	Know when (Implicit understanding	Know that such participation shapes the culture of AI use.	Discovering/ acting independently	Discover institutional gaps or blind spots through analysis and engagement.	Commitment Volition	Commits to co-shaping systems that serve all learners.
3	Know how	Know how to read and contribute to institutional AI analytics or forecasting tools.	Deciding/ selecting	Decide how to align innovation proposals with ethical priorities.	Appreciation Motivation	Values inclusion and transparency in innovation processes.
2	Know why (Distant understanding	Know why HE teaching staff participation is crucial for pedagogical relevance	Using, Imitating	Apply data-informed reasoning in institutional committees or task forces.	Curiosity Perspective taking	Recognizes potential for HE teaching staff influence.
1	Know-what	Know that institutions increasingly use AI in planning and innovation.	Perceiving	Perceive how institutional tools affect teaching and learning.	Self oriented, neutral	Views innovation as top-down and disconnected from teaching.

4.3.2 Advocating for inclusive AI use in strategic decisions: This sub-competence is about ensuring that AI adoption at the institutional level considers equity, ethics, and the needs of underrepresented groups. HE teaching staff act as advocates for inclusive design, fair data use, and participatory governance—especially in decisions around predictive analytics, admissions, and performance monitoring.

Alignment to the LEVEL5 Methodology

	COGNITIVE/KNOWLEDGE		ACTIVITY		AFFECTIVE	
L	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement
5	Know where else (knowledge for transfer)	Know where else advocacy is needed (e.g., faculty hiring, disciplinary design, alumni profiling).	Developing/ Constructing Transfer	Transfer advocacy to national, cross-sector, or global educational forums.	Incorporation Internalisation	Embeds inclusive foresight as a leadership responsibility.
4	Know when (Implicit understanding	Know that advocacy requires institutional navigation and coalition-building.	Discovering/ acting independently	Discover allies and tools for inclusive policy shaping.	Commitment Volition	Commits to principled advocacy for the underserved.
3	Know how	Know how to frame inclusive questions and indicators in decision-making.	Deciding/ selecting	Decide when and how to intervene in institutional debates.	Appreciation Motivation	Values the voice of equity in strategic decisions.
2	Know why (Distant understanding	Know why equity must guide strategic AI adoption.	Using, Imitating	Apply ethical frameworks to assess strategic proposals	Curiosity Perspective taking	Recognizes the politics embedded in AI systems.
1	Know-what	Know that AI can reinforce or disrupt structural inequalities.	Perceiving	Perceive exclusionary patterns in AI-supported decisions.	Self oriented, neutral	Accepts decisions as given or purely data-driven.

Core competence 4.4: AI-Facilitated Academic Networking and Global Engagement

In a globally interconnected academic world, HE teaching staff must build professional relationships beyond institutional walls. This competence focuses on using AI tools to discover relevant peers, collaborations, and academic dialogues across borders and disciplines. It emphasizes responsible networking practices that foster mutual respect, knowledge exchange, and global solidarity—especially for underrepresented HE teaching staff and communities.

Alignment to the LEVEL5 Methodology

●	COGNITIVE/KNOWLEDGE		ACTIVITY		AFFECTIVE	
L	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement
5	Know where else (knowledge for transfer)	Know where AI enhances visibility and participation in global knowledge ecosystems.	Developing/ Constructing Transfer	Transfer global engagement strategies to students and teams.	Incorporation Internalisation	Promote global engagement as an academic norm.

4	Know when (Implicit understanding	Know that global networks can amplify diverse perspectives.	Discovering/ acting indepen-dently	Create and sustain international collaborations.	Commitment Volition	Invest time in meaningful international collaboration.
3	Know how	Know how to use AI platforms for international collaboration.	Deciding/ selecting	Decide on effective networking strategies.	Appreciation Motivation	Appreciate diversity in global exchanges.
2	Know why (Distant understanding	Know why global engagement enriches academic work.	Using, Imitating	Use AI to connect with global peers.	Curiosity Perspective taking	Recognize value in academic partnerships.
1	Know-what	Know that AI tools support academic communication.	Perceiving	Identify opportunities for global engagement.	Self oriented, neutral	See networking as optional.

Sub-competences:

4.4.1 Using AI to expand academic networks strategically: This sub-competence involves leveraging AI-driven tools (e.g., recommendation engines, network visualizations, profile matchers) to identify collaborators, mentors, or scholarly communities aligned with one's research and teaching interests—especially those beyond dominant networks.

Alignment to the LEVEL5 Methodology

	COGNITIVE/KNOWLEDGE		ACTIVITY		AFFECTIVE	
L	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement
5	Know where else (knowledge for transfer)	Know where else AI-supported networking fosters innovation (e.g., intercontinental grants, transdisciplinary consortia, regional hubs).	Developing/ Constructing Transfer	Transfer networking insights into institutional, regional, or thematic strategies	Incorporation Internalisation	Integrates global engagement into scholarly identity.
4	Know when (Implicit understanding	Know that over-personalized filters can reinforce echo chambers.	Discovering/ acting independently	Discover hidden or emerging scholarly communities	Commitment Volition	Commits to ethical, inclusive, and purposeful networking.
3	Know how	Know how to use AI suggestions critically and ethically.	Deciding/ selecting	Decide how to engage across differences and domains.	Appreciation Motivation	Values relationship-building as a form of scholarship
2	Know why (Distant understanding	Know why strategic networking strengthens educational impact	Using, Imitating	Apply AI tools to identify and initiate relevant connections.	Curiosity Perspective taking	Acknowledges the value of connection for learning.
1	Know-what	Know that AI can map and recommend academic connections	Perceiving	Perceive gaps in one's current academic network.	Self oriented, neutral	Views networking as self-promotion or a burden

4.4.2 Engaging in intercultural dialogue with AI-supported mediation: This sub-competence refers to using AI (e.g., machine translation, multilingual transcription, speech moderation tools) to enable richer, more inclusive dialogue across linguistic and cultural boundaries—especially in teaching, research collaboration, and global conferences.

Alignment to the LEVEL5 Methodology

	COGNITIVE/KNOWLEDGE		ACTIVITY		AFFECTIVE	
L	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement
5	Know where else (knowledge for transfer)	Know where else such mediation supports academic work (e.g., MOOCs, open science networks, international curriculum design).	Developing/ Constructing Transfer	Transfer intercultural practices to teaching, publishing, and institutional strategy.	Incorporation Internalisation	Embeds global inclusiveness as a professional norm and ethical stance.
4	Know when (Implicit understanding	Know that intercultural dialogue requires more than technical translation—it demands sensitivity and reflexivity	Discovering/ acting independently	Discover new voices and knowledge forms through AI-enabled access	Commitment Volition	Commits to fostering inclusive dialogue across boundaries.
3	Know how	Know how to choose and manage AI-mediated communication tools.	Deciding/ selecting	Decide how to balance AI mediation with cultural humility.	Appreciation Motivation	Values cultural pluralism in academic engagement.
2	Know why (Distant understanding	Know why intercultural understanding is central to inclusive global scholarship	Using, Imitating	Apply AI tools to enable shared understanding.	Curiosity Perspective taking	Open to using tools to increase accessibility
1	Know-what	Know that AI tools can bridge communication gaps across languages and regions	Perceiving	Perceive communication barriers in cross-cultural exchanges.	Self oriented, neutral	Views language barriers as limiting or inevitable.

Core competence 4.5: Sustaining Wellbeing and Work-Life Balance through AI-Supported Practices

While AI can intensify productivity, it can also support balance—if used thoughtfully. This competence focuses on using AI to manage workload, streamline repetitive tasks, and create time for reflection, rest, and creativity. It includes ethical boundaries in tech use and awareness of digital burnout risks. HE teaching staff that engages with AI not only for efficiency, but for sustainability, model healthier practices for themselves and others.

Alignment to the LEVEL5 Methodology

●	COGNITIVE/KNOWLEDGE		ACTIVITY		AFFECTIVE	
L	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement
5	Know where else (knowledge for transfer)	Know where AI supports sustainable academic ecosystems.	Developing/ Constructing Transfer	Transfer AI wellbeing models into team or institutional routines.	Incorporation Internalisation	Model balanced AI-supported academic life.
4	Know when (Implicit understanding	Know that systemic wellbeing strategies must include digital tools.	Discovering/ acting indepen-dently	Design workflows that promote wellbeing.	Commitment Volition	Advocate for humane digital practices.
3	Know how	Know how to use AI to reduce overload and stress.	Deciding/ selecting	Decide when and how to offload to AI.	Appreciation Motivation	Appreciate AI's role in sustaining wellbeing.
2	Know why (Distant understanding	Know why wellbeing impacts performance.	Using, Imitating	Apply AI to streamline tasks.	Curiosity Perspective taking	Recognize the importance of balance.
1	Know-what	Know that AI can assist with workload management.	Perceiving	Notice signs of imbalance.	Self oriented, neutral	View overwork as inevitable.

Sub-competences:

4.5.1 Automating repetitive tasks to prioritize pedagogical value: This sub-competence involves identifying low-value but time-consuming academic tasks (e.g., formatting, scheduling, first-draft prep, rubric-based grading) and applying AI to automate them—freeing energy for meaningful engagement with students and content.

Alignment to the LEVEL5 Methodology

	COGNITIVE/KNOWLEDGE		ACTIVITY		AFFECTIVE	
L	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement
5	Know where else (knowledge for transfer)	Know where else strategic automation supports mission (e.g., academic administration, research pipelines).	Developing/ Constructing Transfer	Transfer automation strategies to team workflows or mentoring.	Incorporation Internalisation	Embeds sustainable tech use in professional and life philosophy.
4	Know when (Implicit understanding	Know that over-automation can dehumanize the learning process	Discovering/ acting independently	Discover opportunities to redesign time and focus around values.	Commitment Volition	Commits to thoughtful, ethical automation.
3	Know how	Know how to evaluate and implement automation appropriately	Deciding/ selecting	Decide when and how to delegate tasks to AI.	Appreciation Motivation	Values time for high-impact teaching and reflection.
2	Know why (Distant understanding	Know why efficiency should serve—not replace—educational quality.	Using, Imitating	Apply automation tools to reduce cognitive load.	Curiosity Perspective taking	Open to using tools for efficiency.
1	Know-what	Know that AI can automate repetitive academic tasks	Perceiving	Perceive bottlenecks or inefficiencies in one's workflow	Self oriented, neutral	Sees automation as risky or impersonal.

4.5.2 Setting boundaries and digital wellness practices in AI use: This sub-competence addresses the need for digital self-regulation—knowing when to disconnect, when to reject pressure to be always-on, and how to model tech balance to students and peers. It includes using AI support tools (e.g., digital wellness dashboards, task pacing assistants) to manage workload and screen time intentionally.

Alignment to the LEVEL5 Methodology

	COGNITIVE/KNOWLEDGE		ACTIVITY		AFFECTIVE	
L	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement	Level Titles	Individual description/ explanatory statement
5	Know where else (knowledge for transfer)	Know where else wellness practices intersect with leadership (e.g., DEI, mentoring, labor policies).	Developing/ Constructing Transfer	Transfer boundary-setting into department, program, and policy culture.	Incorporation Internalisation	Embeds digital wellness into teaching and academic life.
4	Know when (Implicit understanding	Know that work culture and role modeling influence digital behaviors.	Discovering/ acting independently	Discover healthier rhythms using AI reflection tools.	Commitment Volition	Commits to modeling tech balance for others.
3	Know how	Know how to use wellness apps or AI pacing systems.	Deciding/ selecting	Decide what practices are sustainable and values-aligned.	Appreciation Motivation	Values rest, focus, and sustainability.

2	Know why (Distant understanding	Know why tech boundaries are crucial for mental health and equity.	Using, Imitating	Apply digital wellness settings or routines.	Curiosity Perspective taking	Questions always-on digital expectations.
1	Know-what	Know that AI tools can contribute to overload or support wellness.	Perceiving	Perceive signs of burnout or tech fatigue.	Self oriented, neutral	Accepts overwork as normal.

3. Limitations and Practical Use of the IDEAL Competence Framework

In recent years, the accelerating integration of Artificial Intelligence (AI) technologies in higher education has prompted the need for systematic frameworks to support teaching staff in developing the necessary competences. Among the most notable initiatives, the IDEAL competence framework offers a structured and comprehensive attempt to define what it means to be a competent higher education instructor in an AI-enriched environment. The framework is remarkable in its ambition: it maps a broad spectrum of competences across pedagogical integration, curriculum design, ethical use, and professional development.
In this part of the deliverable report we critically examine the strengths and limitations of the IDEAL competence framework, adopting a measured, practical, and forward-thinking perspective. We highlight the framework's significant contributions while also reflecting on the practical challenges of applying such an extensive competence structure across the diverse and complex realities of university teaching staff.

Comprehensive and Forward-Looking Structure
The IDEAL framework is comprehensive. It addresses not only the technical understanding of AI but also pedagogical, ethical, curricular, and collaborative dimensions. Such a holistic approach is crucial because AI's impact in education is not limited to isolated technological use; it reshapes entire learning ecologies, assessment paradigms, and institutional strategies. The framework's four pillars – Pedagogical-AI Integration, AI-Enhanced Curriculum and Assessment Design, Ethical-Inclusive-Data-Literate Use of AI, and AI-Driven Professional Development and Collaborative Innovation – demonstrate a mature understanding that AI competency is multifaceted.
By defining competences across knowledge, skills, and attitudes, and by providing developmental levels for each, the IDEAL framework supports differentiated growth pathways. It recognizes that developing AI competences is not a binary state (competent or not) but a continuum where individuals and teams evolve progressively.

Support for Institutional Strategy and Professional Development
Another major merit lies in its usability for institutional strategy. Universities increasingly need structured ways to plan staff development and organizational learning in relation to AI. The IDEAL framework offers a reference model for professional development initiatives, strategic planning, and even hiring profiles. It allows universities to be proactive rather than reactive, by identifying which competences to foster depending on their specific educational mission, disciplinary focus, and technological maturity.
For individual educators, the framework provides a clear map to self-assess and guide their professional learning, enabling more intentional and targeted development over time.

Alignment with Emerging Trends in Higher Education
Importantly, the IDEAL framework is aligned with major emerging trends in higher education: personalization, data-informed learning, interdisciplinary integration, and global digital ethics. It

positions educators not as passive recipients of technological change but as critical actors shaping AI's role in education. In doing so, it supports a vision of higher education where AI is a means to humanistic, inclusive, and sustainable learning environments.
The emphasis on ethical and inclusive use of AI is particularly noteworthy. In a time when technological enthusiasm can easily overshadow critical scrutiny, the framework's balanced focus sends a strong signal: competence in AI does not only mean technical proficiency, but also ethical sensitivity, data literacy, and societal responsibility.

Limitations of the IDEAL Competence Framework: Breadth as Both Strength and Challenge
The very breadth that makes the IDEAL framework impressive also presents its primary limitation. It covers an extensive range of competences, many of which are highly ambitious when considered from the perspective of average university teaching staff. While the framework rightly frames these competences as "desirable," it must be understood that they are neither expected to be held by all educators, nor necessary for all academic roles.
University teaching staff are a heterogeneous group. Their backgrounds, disciplines, technological familiarity, and educational philosophies vary significantly. Expecting every educator to develop high-level competences across all areas outlined in the IDEAL framework would be unrealistic, if not counterproductive. The framework is better seen as a compass – pointing towards a set of aspirations – rather than a checklist to be universally completed.

Risk of Overcomplexification
Related to its breadth is the risk of overcomplexification. The IDEAL framework's multi-level, multi-dimensional descriptions can be daunting, especially for institutions or educators just beginning to engage seriously with AI. Without careful guidance and contextualization, there is a possibility that staff might perceive AI competence development as an overwhelming, overly technical or bureaucratic endeavor, leading to disengagement rather than empowerment.
Thus, while the framework provides detailed scaffolding, its effective use requires selective adaptation rather than wholesale adoption.

Variability of Relevance Across Disciplines and Contexts
Another important limitation lies in the variability of relevance across disciplines. For example, competences around AI-enhanced assessment design might be highly relevant for instructors in data science, education technology, or digital humanities, but less immediately applicable to lecturers in classical studies or fine arts. Similarly, in institutions with limited technological infrastructure, some competences may remain aspirational for longer periods.

Consequently, the IDEAL framework needs to be applied flexibly, respecting disciplinary identities, technological readiness, and institutional priorities.

Practical Use of the IDEAL Competence Framework: Selective and Contextual Implementation
Given its extensive nature, a practical and sustainable way to use the IDEAL competence framework is through selective and contextual implementation. Institutions and individual educators should treat the framework not as a rigid standard but as a flexible resource.
Rather than aiming to develop all competences for all teaching staff, universities can prioritize competences most aligned with their strategic goals, technological infrastructure, and educational philosophy. For example, a university committed to widening participation through online learning might emphasize competences related to AI-enhanced accessibility and inclusive curriculum design.

Another institution focusing on research excellence might prioritize competences around data literacy and ethical AI usage in research-led teaching.
On an individual level, educators can perform self-assessments against the framework and identify specific areas for development that match their disciplinary focus and professional interests. This allows for personalization of professional development pathways, transforming the daunting breadth of the framework into an empowering menu of options.

Professional Development Planning

The IDEAL framework also provides a valuable scaffold for designing professional development programs. Training initiatives can be organized around the framework's pillars, offering modular courses or workshops targeting specific clusters of competences. For instance, a series of workshops could be developed around:

- Basic AI literacy and pedagogical integration,
- Ethical use of educational data and AI-driven assessment,
- Collaborative innovation using AI tools in academic teams.

By structuring development programs around real, manageable subsets of competences, institutions can make the framework actionable without overwhelming staff.
Moreover, different professional development tracks can be created for different staff profiles: early-career academics, senior lecturers, educational technologists, program directors, etc. This acknowledges the diversity of roles and responsibilities within universities, ensuring that competence development remains relevant and meaningful.

Institutional Strategy and Quality Assurance

At a more strategic level, the IDEAL framework can inform quality assurance and institutional policy regarding digital transformation. It offers a language and structure through which universities can articulate their expectations around AI integration – not as rigid performance requirements, but as aspirational developmental goals.

For instance, when designing new curricula, institutions might consider how to embed AI literacy and ethical reflection across programs, using the framework to guide course design, assessment strategies, and staff support measures.
Furthermore, in external quality reviews or accreditation processes, universities can demonstrate that they are systematically preparing their teaching staff for the AI-augmented future of higher education by referencing the IDEAL competence framework and the related initiatives undertaken.

Avoiding Misinterpretations and Unrealistic Expectations: Communicating the Purpose Clearly

One of the essential conditions for the successful use of the IDEAL framework is clear communication of its purpose. It must be stressed – in training sessions, strategy documents, and leadership communications – that:

- The framework presents a vision of desirable competences, not minimal mandatory requirements.
- No single educator is expected to master all competences.
- Development is incremental, ongoing, and context-specific.

Without this framing, there is a risk that staff may perceive the framework as a new, burdensome set of expectations, leading to anxiety, resistance, or superficial compliance.

Using the IDEAL framework as a reflective and developmental tool, rather than an evaluative or punitive one, is crucial. Staff engagement will be fostered not through top-down enforcement but through genuine opportunities for learning, experimentation, and professional growth.

Tailoring to Institutional and Disciplinary Realities

Another key to effective use is tailoring. Institutions should conduct mapping exercises to determine which competences are most relevant to their context and disciplinary portfolio.
For example:

- A medical school integrating AI in diagnostic education may emphasize competences related to AI explainability, bias mitigation, and ethical patient data use.
- A school of education may focus more on AI-driven personalization of learning pathways and critical data literacy for future teachers.

Generic, one-size-fits-all application of the framework would blunt its usefulness. Context-sensitive adaptation, by contrast, allows the framework's richness to come alive meaningfully.

Merits and Limitations in Balance

Reflecting critically but fairly, it becomes clear that the IDEAL competence framework achieves an impressive balancing act: it provides an ambitious, future-oriented vision of AI competences in higher education, without pretending that such a vision can or should be fully realized by all teaching staff at once.

Its breadth is both its greatest strength and its main practical challenge. However, when used thoughtfully – as a flexible guide rather than an inflexible standard – the framework empowers institutions and educators alike to engage with AI in education in a structured, reflective, and ethical manner.
Rather than aiming for impossible uniformity, the real potential of the IDEAL framework lies in supporting diverse pathways of competence development, aligned with diverse missions, disciplines, and individual aspirations within the higher education ecosystem.
In this sense, the IDEAL framework is not a checklist to be completed, but a compass to be consulted – pointing towards a higher education landscape where AI serves human flourishing, ethical advancement, and inclusive innovation.

Future Directions and Recommendations: Incremental and Sustainable Competence Development

Looking ahead, one of the key recommendations for the use of the IDEAL competence framework is to encourage incremental, sustainable competence development. Institutions should avoid framing competence acquisition as an all-or-nothing task. Instead, they can promote staged development plans, where educators gradually build their competences over months or years, depending on their roles and evolving needs.
For instance, an initial institutional goal could be for all staff to achieve basic AI literacy and awareness of ethical issues. More advanced competences—such as AI-driven curriculum redesign or data-informed learning analytics—could be reserved for specialized roles, or for voluntary upskilling opportunities.
In this way, the framework supports lifelong professional learning rather than a short-term compliance exercise.

Embracing Collective Competence

Another important evolution in the use of the IDEAL framework is to shift some of the focus from individual competence to collective competence at the team or institutional level. It is neither practical

nor necessary for every educator to individually master every competence. What matters more is that across a program, department, or institution, there exists sufficient collective expertise to innovate and respond responsibly to AI-related challenges.
For example, in a teaching team, one member may specialize in AI-enhanced assessment tools, another in ethical data practices, and another in student-centered AI-driven personalization. Together, they provide a robust, dynamic competence environment, supporting each other and enriching the student learning experience collectively.
This collective approach also fosters collaboration, reduces pressure on individuals, and aligns better with the interdisciplinary nature of contemporary higher education work.

Linking to Broader Digital Transformation Agendas

Finally, it is advisable to link the IDEAL competence framework to broader institutional digital transformation strategies. AI is not an isolated phenomenon; it interacts with other digital trends such as online learning, learning analytics, adaptive technologies, open educational resources, and virtual collaboration platforms.
Thus, AI competence development should not be siloed but integrated into wider conversations about teaching and learning innovation, student support services, research practices, and community engagement.
Embedding the IDEAL framework within these larger frameworks ensures coherence, synergy, and strategic impact.

Critical Reflection: The Broader Context

While the IDEAL competence framework is timely and sophisticated, it is important to remain critically reflective about the broader forces shaping AI and higher education.
First, the evolution of AI technologies is rapid and unpredictable. Competences that are highly relevant today may become obsolete or radically transformed within a few years. Therefore, the IDEAL framework—and any competence development based on it—must retain flexibility and revisability. Institutions should periodically review and update their competence profiles in light of technological, pedagogical, and societal changes.
Second, there is an inherent political and ethical dimension to any competence framework involving AI. Decisions about which competences to prioritize, how to frame ethical engagement, and whose interests to protect are not neutral. They reflect value judgments and power dynamics. Thus, institutions using the IDEAL framework should foster open, critical dialogue about the underlying assumptions and societal implications of AI in education.
Third, it is crucial to acknowledge global diversity. Higher education institutions operate in vastly different technological, economic, cultural, and political environments. A competence considered essential in a technologically advanced Western university may be less pressing—or differently framed—in a university in the Global South, or in rural or under-resourced areas. The IDEAL framework offers a valuable common language, but its application must respect local contexts and educational equity concerns.

Conclusion

The IDEAL competence framework represents a major step forward in conceptualizing and supporting the development of AI-related competences among higher education teaching staff. Its comprehensive structure, ethical grounding, and future-oriented vision make it a highly valuable resource for universities seeking to navigate the complex landscape of AI integration.
At the same time, its very ambition necessitates careful, contextualized, and flexible use. Not all competences outlined are expected or necessary for every educator; rather, they represent a horizon

of possibilities, adaptable to diverse institutional missions, disciplinary traditions, and technological realities.

By approaching the framework as a compass rather than a checklist, institutions can empower staff to engage with AI critically, creatively, and sustainably. By focusing on incremental development, collective expertise, and alignment with broader educational transformations, the IDEAL framework can become a catalyst for meaningful innovation—anchored not merely in technological trends but in a deeper commitment to educational quality, inclusiveness, and ethical responsibility.

In the end, the ultimate merit of the IDEAL framework lies not in prescribing a fixed model of the "AI-competent educator," but in opening a space for continuous reflection, learning, and growth within higher education's evolving encounter with artificial intelligence.

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