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UNIHUBS

International Course (MOOC)

Educator's User Guide

February 2026

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Dissemination Level

P	**Public**	
PP	**Restricted to other programme participants (including the EC services)**	
RE	**Restricted to a group specified by the consortium (including the EC services)**	
CO	**Confidential, only for members of the consortium (including the EC services)**	

Document Control Sheet

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UNIHUBS Introduction

UNIHUBS is a collaborative Erasmus Capacity Building initiative that aims to strengthen the capacity of Higher Education Institutions (HEIs) in Kenya, Ghana, and Tanzania by connecting them with Digital Innovation Hubs (DIHs) and European partners from the Netherlands and Greece. This collective effort improves HEIs' capacity by adopting innovative educational approaches, addressing digital innovation labour market needs and challenges and improving their graduates' employability rates.

Acknowledging the goals of the EU-AU Innovation Agenda (2022) to strengthen innovation ecosystems and develop sustainable and mutually beneficial HE in Europe and Africa, the project focuses on enhancing the relevance of HEIs to the digital innovation labor market through curriculum modernization, co-creation of educational materials, and experiential learning. It promotes innovative, learner-centered teaching methods and fosters collaboration between academia and industry to improve graduate employability.

UNIHUBS provides a unique platform to catalyze changes, foster collaboration among HEIs, DIHs, and policymakers to drive innovation, build sustainable partnerships, and equip graduates with the skills needed to thrive in the labor market.

MOOC overview

The UNIHUBS International Course (MOOC) employs innovative educational tools to address knowledge gaps and unmet labor market skill requirements that were identified in previous activities via focus groups, interviews, and surveys. The educational modules and material are the outcome of 7 co-creation workshops implemented in Kenya, Tanzania, and Ghana, where a diverse group of stakeholders was involved, including educators, students, DIH representatives, and alumni. It is an interdisciplinary, practice-oriented learning program designed to cultivate skills that will enable university students to be part of the digital innovation ecosystem and pursue employment and entrepreneurial opportunities.

The UNIHUBS International Course consists of 4 modules:

1. **Business Development Models & Strategies** builds foundational entrepreneurial competencies, opportunity identification, market research, value proposition and business model design, basic financial planning, strategic growth thinking, and pitching.
2. **Technology Transfer & Data-driven Innovation** develops an understanding of technology transfer in HEIs, data-driven innovation, intellectual property, and commercialization pathways.
3. **Digital Marketing Strategy and Execution** develops strategic, technical, analytical, and ethical skills required for planning and executing digital campaigns, with a strong emphasis on measurable outcomes and employability-oriented outputs (portfolio-ready work).
4. **Soft Skills Development for Digital Innovation Professionals** aims to strengthen employability by focusing on communication, teamwork, facilitation, critical thinking, adaptability, ethics, and self-management.

These modules, both individually and collectively, aim to strengthen students' understanding of digital innovation ecosystems, develop entrepreneurial and intrapreneurial thinking, enhance employability through market-relevant skills,

foster cross-disciplinary collaboration and problem-solving, support technology commercialization and innovation transfer, and cultivate soft skills essential for digital-era professionals.

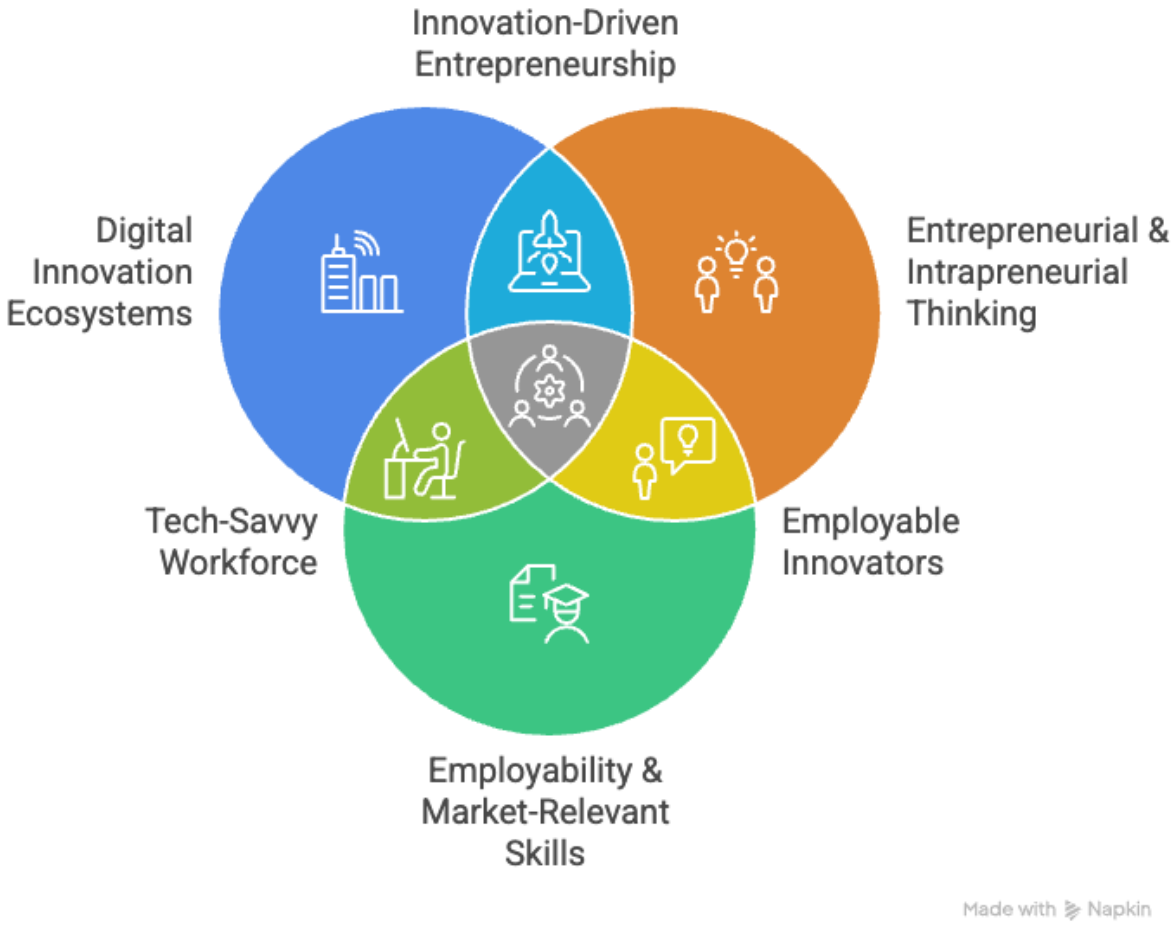

Figure 1: The synergy of UNIHUBS MOOC objectives.

The target audience of this course is university students regardless of their discipline, as the MOOC equips students with knowledge, competencies, and mindset required to digital innovation environments, whether as employees, entrepreneurs, researchers, or intrapreneurs within established organizations.

The UNIHUBS International Course (MOOC) is highly adaptable and can be integrated into both existing and new academic curricula. Each module may operate independently, allowing educators to tailor it to their needs and course

structure. Additionally, the included activities are designed with flexibility in mind. They can be assigned as individual tasks to encourage ownership and reflection or implemented as group-based exercises to foster collaboration and communication among students. This adaptable approach allows educators to promote both personal accountability and teamwork competencies, which are essential in digital innovation and professional environments.

The UNIHUBS International Course (MOOC) combines theoretical foundations with experiential learning methodologies. It integrates:

- Practical worksheets and guided exercises
- Reflective activities
- Interactive assignments
- Multimedia resources (articles, blog posts, videos, podcasts)
- Self-assessment tools

The UNIHUBS International Course (MOOC) materials are published under a Creative Commons license, ensuring accessibility, adaptability, and reuse. The course package includes printable learning materials, introductory presentation slides, worksheets, activity templates, multimedia learning resources, and supplementary readings.

MOOC Structure map

The UNIHUBS International Course (MOOC) is designed to cultivate students' skills, competencies, and an innovative mindset, enabling them to easily integrate into the labor market and into the digital innovation ecosystem. The UNIHUBS MOOC has been developed to be a self-paced, standalone, and open for reuse, but also to be embedded into a university curriculum.

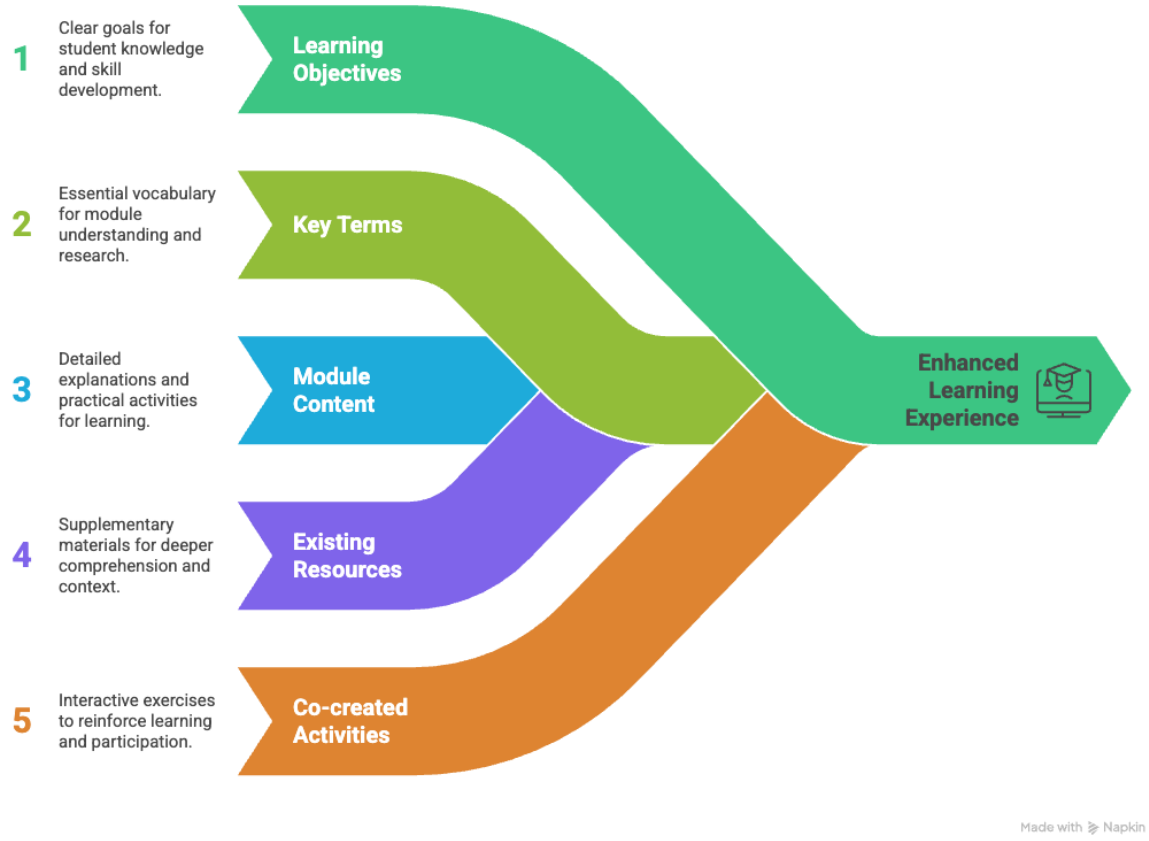

Figure 2: Core elements of the UNIHUBS International Course (MOOC).

Each module follows the following structure:

- **Learning Objectives** describe what students are expected to know, understand, and be able to do by completing the module.
- **Key terms.** A curated list of terms introduced in each module, designed to provide an overview of covered concepts, but also to support further search.
- **Module Content** provides a detailed presentation of the thematic units, including conceptual explanations, theoretical foundations, and step-by-step activities.
- **Existing resources** have been carefully selected by UNIHUBS partners to help students understand key terms and gain a complete view of each theme.

- **Co-created activities** are worksheets prepared for each unit to foster the theoretical understanding and hands-on experience. These worksheets are intended to enhance participation and students' interest.

Module-by-Module Notes

Module 1 – Business Development Models and Strategies

This 5–6-hour module introduces business development as a practical process for turning real market opportunities into viable, scalable ventures in African contexts. It aims to help learners move from idea to structured concept by integrating market, strategic, and financial insights into a coherent, evaluable business proposal.

Structure and flow

- **Unit 1: Foundations of Business Development (45 min)** – covers market research fundamentals, opportunity identification, customer discovery, and the specific features of African and emerging markets.
- **Unit 2: Understanding the African Business Environment (15 min)** – examines demographics, informality, digitalisation, infrastructure gaps, regulation, and regional integration (e.g. AfCFTA) as the backdrop for opportunity and risk.
- **Unit 3: Strategic Growth Frameworks (90 min)** – introduces the Business Model Canvas, Value Proposition Design, Ansoff's Growth Matrix, and strategic partnership models (joint ventures, licensing, alliances, PPPs).
- **Unit 4: Value Creation and Financial Planning (90 min)** – addresses revenue streams, pricing strategies, cost structures, financial projections, break-even reasoning, and funding options (bootstrapping, grants, angel, VC).

- **Unit 5: Pitching (20 min)** – guides learners to synthesize their work into a concise, persuasive pitch that links problem, solution, business model, and financial viability.

Activities (educator use)

- **Activity #1: Market Opportunity Snapshot** – worksheet to link a local problem, target customer, and gap in existing solutions into a Problem–Customer–Solution snapshot.
- **Activity #2: Business Model Canvas Sprint** – guided completion of all nine BMC blocks for the most promising opportunity, using a template tool (e.g. Canva).
- **Activity #3: Financial Viability** – worksheet to draft a simple financial overview (revenues, costs, break-even reasoning) and justify key financial assumptions.

Check your knowledge

A brief oral pitch presentation. It will synthesize students' work into a concise, persuasive pitch that links problem, solution, business model, and financial viability.

Educator notes

- Encourage learners to select locally grounded ideas (community, city, or national level) to situate research, customer discovery, and financial reasoning.
- Use group work to compare different opportunities and business models, prompting critique of feasibility, scalability, and social impact.
- Treat each worksheet as a step in an integrated pipeline (opportunity → BMC → financial viability → pitch) so learners see how decisions in one area affect the others.

- Invite short practice pitches with peer feedback focused on clarity of problem, strength of value proposition, and realism of financial and growth assumptions.

Module 2 – Technology Transfer and Data-driven Innovation

Module 2 tries to position students as data-informed innovators who move university knowledge into real-world impact through technology transfer and evidence-based decision-making. This 8–9 hour module aims to equip students to use data, IP tools, and ecosystem resources (innovation hubs, TTOs, partners) to move from research and ideas to validated, scalable solutions and startups.

Structure and flow

- **Unit 1: Foundations of Technology Transfer in HEIs (45 min)** – explains technology transfer as a progression from research to prototype, product, and market, and clarifies the role of HEIs in national innovation systems.
- **Unit 2: Innovation Ecosystems and University Innovation Hubs (45 min)** – examines innovation ecosystems and the Triple Helix model, highlighting collaboration among universities, industry, and government.
- **Unit 3: Data-Driven Innovation Concepts (45 min)** – introduces data as a core resource for innovation, key data types in HEIs, and foundational data literacy and governance for responsible use.
- **Unit 4: Opportunity Identification Using Data (45 min)** – shows how to use research, market, and user data to define problems, analyse trends, size markets, and select viable innovation opportunities.
- **Unit 5: Intellectual Property and Commercialisation** (**60 min**) – covers IP forms (patents, copyright, trademarks), ownership in universities, licensing vs spin-offs, and TTO roles.

- **Unit 6: Data-Driven Business Models (60 min)** – uses a data-enhanced Business Model Canvas to design value propositions, revenue logic, and scalable models for data-based or data-enabled solutions.
- **Unit 7: Prototyping, Validation, and Scaling (60 min)** – develops lean, MVP-based experimentation, user testing, iteration, and impact and scalability metrics.
- **Unit 8: Innovation Pitching and Technology Transfer Pathways (60 min**) – integrates problem definition, data insights, solution, business model, and commercialization route into a data-backed innovation pitch.

Activities (educator use)

- **Activity 1: Research-to-User Mapping** – research-to-application mapping, identifying potential pathways for transferring university research outputs to real users.
- **Activity 2: Ecosystem Mapping** – visualization and understanding of how the university connects with industry within an innovation ecosystem.
- **Activity 3: Data-to-Opportunity Analysis** – identification of opportunities backed by analyzing real data.
- **Activity 4: Data-Enhanced Business Model Canvas** – an extension of the traditional Business Model Canvas by incorporating data-related elements.
- **Activity 5: MVP Design & Data Collection Planning** – a guide to develop and plan testing activities that support the Minimum Viable Product.

Additional Activities

<u>Unit 3: Data-driven Innovation Concepts</u>

- **Additional Activity #1: Tools Introduction** - to support hands-on learning, students might be introduced to accessible and widely used data tools such as Excel/Google Sheets (for data cleaning, basic

analysis, visualization, and trend identification, Power BI/Tableau (on Introductory Level to enable students create interactive dashboards and communicating data-driven insights), Open Datasets (Use of publicly available datasets from government portals, research repositories, and international organizations to explore real-world problems).

Unit 5: Intellectual Property & Commercialization

- **Additional Activity #2: University Spin-Offs and Licensed Technologies** – a case study examining real or hypothetical examples of technologies developed within universities that have been successfully commercialized. Following the case study presentation, students may be asked or guided to analyze various aspects like the nature of the innovation and the IP type involved, ownership and disclosure processes within the university, the chosen commercialization pathway (licensing or spin-off), the role played by the Technology Transfer Office, Outcomes, challenges, and lessons learned. Around these topics, a discussion may be initiated.

Unit 7: Prototyping, Validation & Scaling

- **Additional steps on Activity #5: MVP Design & Data Collection Planning** – on the existing activity, feel free to include the following steps to advance the activity.
  - Additional Step 1: Build and Deploy (between Step 2 & Step 3) - create a prototype, mock-up, or pilot version of your solution and share it with a small group of target users.
  - Additional Step 2: Collect Feedback Data (following Step 3) – execute the Data Collection Plan and gather user feedback or record observations.
  - Additional Step 3: Analyze and Iterate (last Step) – the students are asked to analyze and iterate on their solution. Guiding questions could

be: What does the data reveal about user needs and behavior? What changes should be made to improve the solution?

Alternative Check Your Knowledge Activity – Final Innovation Pitch

This alternative capstone activity integrates learning from all units into a comprehensive innovation pitch. Furthermore, the final pitch could be delivered to a mock panel comprising representatives from industry, innovation hubs, and technology transfer offices. Therefore, the students are required to:

- Clearly define a problem, supported by data
- Present a data-driven solution and value proposition
- Demonstrate market opportunity and impact using evidence
- Identify an appropriate technology transfer pathway (licensing, spin-off, or startup)

Reflection Question to end the activity:

- How did the use of data and clear communication strengthen the credibility and transfer potential of your innovation?

Check your knowledge

Multiple choice questions.

Educator notes

- Use concrete university or local cases (labs, student projects, community challenges) to illustrate research-to-impact journeys and ecosystem actors.
- Require project ideas to be supported by at least some data (surveys, open data, usage logs, secondary sources) and explicitly discuss data limitations.
- Treat the activities of the whole module as a cumulative assessment and a portfolio piece that students can reuse beyond the course.

Module 3 – Digital Marketing Strategy and Execution

Module 3 focuses on building practical digital marketing competence from strategy to ethical execution in a mobile-first African context. It provides examples for African mobile-first realities (smartphone access, social proof, messaging platforms, trust signals). This 4–5-hour module is designed to move students progressively from conceptual foundations to the creation of a digital marketing portfolio that serves as a proof of competence.

Structure and flow

- **Unit 1: Digital Marketing Foundations & Strategic Planning (45 min)** – transitions from 4Ps to 4Cs and 4Rs, introduces mobile-first African consumer behavior, audience segmentation, customer personas, SMART objectives, and KPIs.
- **Unit 2: Digital Channels & Campaign Execution (45 min)** – introduces the Owned–Earned–Paid (OEP) framework, funnel stages, SEO basics, and highlights WhatsApp/SMS as dominant channels in African markets.
- **Unit 3: Content Creation, Analytics & Optimization (45 min)** – covers persuasive copywriting, content calendars, and key metrics (CTR, CPA, Conversion Rate, ROI, ROAS) to foster data-driven decision-making.
- **Unit 4: Ethics, Responsible Marketing (45 min**) – focuses on data privacy, consent, transparency, ethical persuasion vs. dark patterns, and responsible AI use, culminating in a structured ethical checklist.

Activities (educator use)

- **Activity #1: Customer Persona Development** – worksheet for building a detailed persona and defining up to two SMART objectives with justified KPIs.

- **Activity #2: WhatsApp Campaign** – guided design of a persona-based WhatsApp promotional message, adaptable to other channels, with a short quality-check step.
- **Activity #3: One-Week Content Calendar** – creation of a 7-day content plan mapped to funnel stages, with attention to platform fit and basic budget allocation.
- **Activity #4: Ethical Checklist Application** – structured review of a campaign to identify ethical risks, check regulatory compliance, and propose corrective actions.

Additional Activities

Unit 1: Digital Marketing Foundations & Strategic Planning

- **Additional Activity #1: Digital Purchase Reflection.** Encourage learners to reflect on their most recent digital purchase journey and identify digital touchpoints, triggers, and decision influences.

Unit 2: Digital Channels & Campaign Execution

- **Additional Activity #2: OEP Classification Exercise.** Students are called to classify campaign elements into Owned, Earned, and Paid media using an interactive framework.
- **Additional Activity #3: Funnel Mapping Simulation**. A simulation activity where students map content types to appropriate funnel stages and justify strategic choices.
- **Additional Activity #4**: **SEO Meta Description Practice**. Optimizing meta descriptions based on selected keywords and local search intent.

Unit 3: Content creation, analytics & optimization

- **Additional Activity #8: Headline & CTA Refinement.** A practice exercise where students improve weak headlines and draft persuasive CTAs aligned with campaign goals.

- **Additional Activity #9: Analytics Simulation**. Interpreting a campaign dataset and identifying performance strengths and weaknesses.
- **Additional Activity #10: KPI Mini-Report & ROI/ROAS Calculation.** Calculating ROI and ROAS and submitting a short analytical interpretation report.

Unit 4: Ethics and Responsible Marketing

- **Additional Activity #11: Ethics Case Study.** Analysing a digital marketing scenario involving disclosure, consent, and persuasive tactics, and proposing ethical solutions.

Check your knowledge

Learners compile a Digital Marketing Portfolio including persona, SMART objectives, channel mix, SEO meta description, social samples, WhatsApp message, 1-week content calendar, KPI plan, and an ethical compliance statement.

Educator notes

- Encourage group-based persona work to reflect diverse African markets, then have groups compare objectives and KPIs.
- Use live or simulated platforms (e.g., WhatsApp mock-ups, social media examples) to make channel and content exercises concrete.
- Integrate short debriefs after each activity, asking learners to justify choices using concepts (4Cs/4Rs, OEP, funnel, KPIs, ethics).
- Treat the activities of the whole module as a cumulative assessment and a portfolio piece that students can reuse beyond the course.

Module 4 – Soft Skills Development for Digital Innovation Professionals

Module 4 develops soft skills enabling effective communication, collaboration, leadership, and ethical behavior for digital innovation professionals. It is a 4–5-hour module targeting interpersonal, cognitive, and ethical competencies that complement technical expertise in digital fields.

Structure and flow

- **Unit 1: Professional Communication (45 min)** – covers technical and email writing, presentation skills, and active listening to support clear, audience-appropriate communication in academic and professional settings.
- **Unit 2: Collaboration and Team Dynamics (45 min)** – explores collaboration foundations, agile teamwork principles, conflict resolution, and constructive feedback as enablers of positive, productive team environments.
- **Unit 3: Facilitation, Critical Thinking, Adaptability (45 min)** – develops skills for guiding group discussions, analyzing information, making evidence-based decisions, and remaining flexible in changing digital contexts.
- **Unit 4: Ethics, Leadership, and Self-Management (45 min)** – addresses ethical and accountable behavior, leadership and management skills, time management, and personal development planning for continuous growth.

Activities (educator use)

- **Activity #1: Presentation Preparation** – step-by-step worksheet to redesign a past presentation, clarify the main message, structure content, and plan visuals, with reflection on strengths and challenges

- **Activity #2: Communication Styles Preferences** – reflective worksheet to identify personal communication style in team settings, strengths and challenges, and implications for collaboration.
- **Activity #3: Personal SWOT Analysis** – self-assessment of strengths, weaknesses, opportunities, and threats to inform goal setting and strategies for personal and professional growth.

Check your knowledge

An immersive experience (on the Metaverse Learning Experience) where students can practice listening, teamwork, and communication with feedback from an AI avatar.

Educator notes

- Encourage learners to bring real or recent experiences (presentations, team projects, conflicts) into activities to make reflection concrete and relevant.
- Use mixed teams and rotate roles (speaker, facilitator, note-taker) to practice different collaboration and leadership behaviors.
- Connect Metaverse challenges back to classroom themes with short debriefs on what worked, what did not, and which soft skills were most important.
- Ask students to translate outputs (presentation plan, communication profile, SWOT) into a simple personal development plan they can revisit across modules.