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MiCrocVET

THE BEST PRACTICE GUIDELINES ON THE USE OF MICROCREDENTIALS

Partner Coordinator

OpenCom (IT)

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Credits

Partner Coordinator
OpenCom (IT)

- Erina Guraziu, PhD
- Ilenia Costa
- Perla Colzi
- Fabio Frangipani

Collaborating Partners
E&D (PT)

- João Alves, PhD
- Ewa Kopczynska, PhD

MEUS (ES)

- Cécile Sauvage
- Pilar Aguado

KAINOTOMIA & SIA EE (EL)

- Stergios Samaras

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Sommario

Introduction

This template serves as a comprehensive tool for collecting and analyzing best practices in the implementation of micro-credentials within Vocational Education and Training (VET) systems, with a particular focus on non-formal and informal learning contexts. Developed as part of the MiCroc'VET project, this document aligns with the European approach to micro-credentials for lifelong learning and employability (European Commission, 2021) and adheres to the quality assurance principles outlined in the EQAVET recommendation.

The template is designed to capture a diverse range of microcredential practices across local, national, and transnational levels. It aims to provide a structured framework for partners to document innovative approaches, implementation strategies, and quality assurance mechanisms in the field of short course accreditation and recognition.

By utilizing this template, project partners will contribute to a rich repository of knowledge that spans various educational sectors, fostering cross-pollination of ideas and supporting the development of standardized, yet flexible, microcredential systems across Europe. The collected best practices will inform the creation of practical guidelines for VET providers, ultimately enhancing the recognition of non-formal and informal learning and promoting lifelong learning and employability in an ever-evolving labor market.

This collaborative effort will not only increase our understanding of current practices but also pave the way for future innovations in the field of micro-credentials, supporting the broader goals of European education and training policies.

1. Methodology

1.1 Objectives

The objectives of this best practices collection are to facilitate the exchange of ideas and practices among VET providers across Europe, aiming for standardization and homogenization of microcredential procedures (SO2).

It seeks to promote awareness of the importance of adopting recognition and record systems for courses, motivating student enrollment and enabling secure competence declaration. By disseminating identified best practices, it contributes to promoting new accreditation and record systems for short courses (SO4). The collection aims to improve participants' knowledge of microcredential implementation practices, badges or other current accreditation systems for short courses (as listed in the Glossary), to develop collaborative skills, and analyze various implementation alternatives. It provides concrete ideas for improving operational practices and creates a knowledge base supporting the development of practical guidelines for non-formal training providers.

Building upon Activity 1's results (Glossary) as a conceptual framework, this collection will contribute to developing broadly applicable guidelines for microcredential system adoption.

1.2 Scope

This collection of best practices encompasses local, national, and transnational examples of microcredential implementation by Vocational Education and Training (VET) providers. The scope extends to include relevant practices.

The document aims to capture a diverse range of microcredential applications, focusing on:

- Non-formal VET providers' experiences and innovations in microcredential systems
- Adaptable practices from formal education sectors that can inform VET microcredential strategies
- Examples that demonstrate the integration of micro-credentials into existing VET frameworks
- Cases that illustrate the alignment of micro-credentials with industry needs and employment outcomes
- Practices that showcase quality assurance measures in line with EQAVET standards

This best practice document is designed to have a positive impact by providing practical, actionable insights for VET providers. It will serve as a valuable resource for training staff and stakeholders on the application of microcredential systems, fostering a deeper understanding of their potential and implementation challenges.

The scope also includes examining the transferability of these practices across different contexts, ensuring that the collected examples can inspire and guide VET providers in various settings to enhance their microcredential offerings and recognition processes.

1.3 Method of Developing the Template for Collecting Best Practices

The development of the template for collecting best practices was grounded in a comprehensive analysis of European guidelines and recommendations pertaining to micro-credentials and quality assurance in vocational education and training.

Primarily, the template's structure and content were informed by the "Proposal for a Council Recommendation on a European approach to micro-credentials for lifelong learning and employability" (European Commission, 2021). Specific attention was given to the "European standard elements to describe a micro-credential" outlined in this proposal, ensuring that the template captures essential characteristics of micro-credentials as defined at the European level.

Additionally, the template's design incorporated quality assurance principles from the European Quality Assurance Reference Framework for Vocational Education and Training (EQAVET) Recommendation (European Union, 2020), particularly focusing on aspects related to the recognition of non-formal and informal learning outcomes.

To maintain consistency in terminology and conceptual understanding across the project, the Glossary developed in Activity 1 was extensively utilized.

We belive that this methodological approach ensured that the template not only aligns with current European policy directions but also facilitates the collection of best practices that are comparable, transferable, and relevant to the broader context of microcredential implementation in VET systems. This resulting template provides a structured framework for documenting microcredential practices, encompassing key elements such as learning outcomes, assessment methods, quality assurance mechanisms, and recognition processes, thereby enabling a comprehensive analysis of innovative approaches in non-formal and informal learning contexts.

1.4 Data Collection Method

The collection of best practices will employ a comprehensive, systematic and rigorous approach to gather relevant data on microcredential implementation in VET and other learning contexts, focusing on practical, implementable examples that can inform and inspire VET providers in their adoption of microcredential systems.

Partners are suggested to follow these steps:

1. **Scope of Collection:**
   - Focus on local, national, and transnational examples of microcredential use by VET providers.
   - Include transferable examples from Higher Education Institutions (HEIs) where applicable to VET contexts.
2. **Reference Framework:**
   - Utilize the conceptual framework established in Glossary (Activity 1) of the project as a reference for recognition concepts to be explored and exposed in the best practices.
   - Use the EQAVET Recommendation
3. **Key Areas of Investigation:**
   - Partners will concentrate on finding examples of microcredential system applications, specifically examining:
   - Implementation methods and strategies.
   - Delivery mechanisms and platforms.
   - Certification and recognition processes, including the entities involved in these processes.
4. **Data Sources:**
   - Literature review of relevant publications, reports, and case studies.
   - Direct outreach to VET providers and relevant stakeholders.
   - Analysis of online platforms and digital credentials ecosystems.
   - Consultation with industry experts and policymakers.
5. **Data Collection Tools:**
   - Partners are suggested to adopt the following tools when collecting the best practices:
   - Semi-structured interviews with key informants
   - Document analysis of institutional policies and procedures
   - Observation of microcredential implementation in practice (where possible)
6. **Quality Assurance:**
   - Cross-verification of collected data through multiple sources
   - Peer review of collected practices by project partners
   - Validation of findings with subject matter experts
   - Alignment with EQAVET indicators and descriptors, particularly those related to relevance of quality assurance systems for VET providers, investment in training of teachers and trainers, and utilization of acquired skills in the workplace
7. **Ethical Considerations:**

Partners are suggested to consider ethics when collecting best practices:

- Obtain necessary permissions and consents for data collection and publication
- Ensure confidentiality and anonymity where required

8. **Documentation:**
   - Standardized template for recording best practices (as provided in the project documentation)
   - Systematic cataloging of collected examples for easy reference and analysis

1.5 Expected Results from Partner Collaboration

Each partner will contribute a baseline of four best practices, showcasing diverse applications of micro-credentials and digital badges across different levels and contexts. This initial collection will provide a rich tapestry of implementations, reflecting the varied landscapes of VET systems across Europe.

During the mobility event in Arezzo, partners will engage in a collaborative analysis and comparison of their collected best practices. This process will involve:

1. Presentation and discussion of each partner's findings
2. Identification of common themes and innovative approaches
3. Critical evaluation of the transferability and scalability of each practice
4. Assessment of alignment with European standards and EQAVET principles

Through this collaborative exercise, partners will work towards establishing criteria for what constitutes a "best practice" in microcredential implementation. They will consider factors such as:

1. Effectiveness in recognizing non-formal and informal learning
2. Alignment with labor market needs
3. Quality assurance mechanisms
4. Learner engagement and outcomes
5. Technological innovation and accessibility

Partners will also explore the replicability of these practices within their respective contexts, considering local regulatory frameworks, cultural factors, and institutional capacities.

Finally, partners are requested to write down the method used to collect data.

1.6 Best Practice Selection Criteria

During the meeting in Arezzo, partners will evaluate whether identified practices qualifies as a "best practice" in the context of micro-credentials in VET, considering the following key criteria:

1. **Effectiveness**
   - Does the practice achieve its intended learning outcomes?
   - Is there evidence of positive impact on learners' skills and employability?
2. **Alignment with European Standards:**
   - Does it adhere to the "European standard elements to describe a micro-credential" (European Commission, 2021)?
   - Is it compatible with the EQAVET framework? Yes/No/Not stated or recorded
3. **Innovation:**
   - Does the practice introduce novel approaches to credentialing or assessment?
   - Does it leverage technology effectively (e.g., blockchain, digital badges)?
4. **Scalability and Transferability:**
   - Can the practice be adapted to different contexts or scaled up?
   - Are there clear guidelines for implementation?
5. **Stakeholder Engagement:**
   - Does it involve collaboration between VET providers, employers, and learners?
   - Is there industry recognition of the micro-credentials?
6. **Accessibility and Inclusivity:**
   - Is the practice accessible to diverse learner groups?
   - Does it support lifelong learning?
7. **Recognition and Portability:**
   - Are the micro-credentials recognized beyond the issuing institution?
   - Can they be easily shared and verified by employers or other institutions?
8. **Alignment with Labor Market Needs:**

- Does the practice address current skill gaps or emerging industry requirements?

9. **Learner-Centricity:**
   - Does it offer flexibility and personalization in learning pathways?
   - Are there mechanisms for learner feedback and continuous improvement?
10. **Sustainability:**
   - Is the practice financially viable in the long term?
   - Does it have institutional support and resources for ongoing implementation?

To every question, partners will respond with:

- Yes
- No
- Not stated or recorded

"Yes" equals 1 point; "No" and "Not stated or recorded" equal 0 points.

To ensure accuracy and adherence to established standards, we rereffed to official European documents and recommendations related to micro-credentials and VET:

1. The "Council Recommendation of 16 June 2022 on a European approach to micro-credentials for lifelong learning and employability " (Council of the European Union, 2022)
2. The "Recommendation of the European Parliament and of the Council of 18 June 2009 on the establishment of a European Quality Assurance Reference Framework for Vocational Education and Training" (European Parliament and the Council of the European Union, 2009)
3. The "Council Recommendation of 24 November 2020 on vocational education and training (VET) for sustainable competitiveness, social fairness and resilience" (Council of the European Union, 2020)
4. The "Recommendation of the European Parliament and of the Council of 15 March 2017 on the European Qualifications Framework for lifelong learning" (European Parliament and Council of the European Union, 2017)

2. Results

Our analysis of 12 best practices reveals significant insights into microcredential implementation across various educational contexts, showcasing innovative approaches to short course accreditation and recognition mechanisms.

2.2 Diversity of Microcredential Practices

Geographic Distribution and International Collaboration

- **Italy-led initiatives** feature prominently with OpenBadge Diversity (BP1) by University of Siena addressing LGBTQIA+ awareness, Project Manager of Sustainability Report certification (BP2) developed through a multi-country consortium, and "Self-e" project (BP3) focused on entrepreneurship education.
- **Spain** contributes through Fundación Universidad Autónoma de Madrid's university micro-credentials (BP7) and University of Zaragoza's collaboration with Foundation Edelvives (BP8).
- **Portugal** presents comprehensive national approaches with Centro Qualifica (BP4) and ANQEP's Upskilling and Reskilling Initiatives (BP5) for skill validation.
- **Greece** contributes institution-driven models through University of Thessaly's GIS Applications (BP10), University of Athens' Business Writing Skills (BP11), and Hellenic Open University's Blockchain Technology (BP12).
- **Cross-border initiatives** like AI4GreenSMEs (BP9) involving Spain, Bulgaria, Cyprus, Malta, and Greece demonstrate multi-country collaboration addressing emerging skills.
- **Global reach** is exemplified by FORTH innovation method (BP6), showing how methodological frameworks can be credentialed internationally.

Educational Context Diversity

- **Higher Education Institutions** extend their credentialing to shorter learning experiences (BP7, BP8, BP10, BP11, BP12).
- **Formal VET providers** collaborate to develop teacher training and entrepreneur education (BP3).

- **Government-sponsored initiatives** demonstrate nationwide approaches to skill validation through modular micro-credentials (BP4, BP5).
- **Foundation and corporate training** approaches provide structured certification for specific competencies (BP6, BP8).

Subject Domain Diversity

Practices cover social awareness (BP1), sustainability management (BP2, BP7, BP9), technical skills (BP10, BP12), business competencies (BP6, BP11), and educational development (BP3, BP8).

Credential Format Diversity

Implementations include digital badges (BP1, BP9), formal certificates with ECTS/ECVET credits (BP7, BP8, BP10, BP11, BP12), national qualification frameworks (BP4, BP5), and consortium-based recognition (BP2, BP3).

2.3 Recognition and Validation Approaches

Validation of Prior Learning and Experience

The Portuguese Centro Qualifica (BP4) stands out with its comprehensive prior learning validation through individual competency assessment and tailored learning pathways. The individual skills record (RIC) documents competencies acquired through work and life experiences, forming the basis of the Qualifica Passport, a digital tool for recording qualifications.

ANQEP's Upskilling Initiatives (BP5) complement this approach with Short Training Units (UFCDs) that address specific skill gaps identified through prior learning validation.

Digital Credentialing Innovations

The University of Zaragoza (BP8) exemplifies advanced digital credentialing through the CertiDigital project conforming to European Learning Model v.3, with direct integration to Europass Digital Credentials.

The OpenBadge Diversity (BP1) and "Self-e" project (BP3) utilize digital badges/certificates shareable on professional platforms like LinkedIn, enhancing visibility to employers.

Standardization of Learning Outcomes

The Hellenic Open University's Blockchain course (BP12) demonstrates exceptional clarity in defining learning outcomes across knowledge, skills, and competencies, with specific ECTS credit allocations for each module.

The "Self-e" project (BP3) developed a detailed "Matrix of Learning Outcomes for Teachers" based on Eurydice's entrepreneurship framework and the DigCompEdu framework, enhancing cross-border recognition.

2.3 Digital Technologies in Microcredential Systems

Learning Management Systems and Digital Delivery

Several practices utilize comprehensive digital platforms that integrate content delivery, assessment, and certification:

- The University of Thessaly's GIS Applications program (BP10) supports both synchronous and asynchronous participation.
- The University of Athens' Business Writing Skills program (BP11) utilizes an ISO-certified e-learning platform with continuous assessment capabilities.
- The Hellenic Open University's Blockchain course (BP12) employs a weekly distribution system for educational materials.

Integration with European Digital Infrastructure

The University of Zaragoza (BP8) directly connects to Europass Digital Credentials, allowing automatic credential addition to learners' Europass Library.

The Portuguese systems (BP4, BP5) integrate digital credentialing with the National Qualifications Catalog while aligning with European frameworks.

Assessment and Verification Technologies

Digital assessment approaches include:

- Module tests requiring minimum success rates (BP1)
- Online quizzes and digital assignment submission (BP10)
- Expert judgment integrated into digital systems (BP6)

2.4 Quality Assurance Mechanisms

International Standards and Certification

The University of Thessaly (BP10) and University of Athens (BP11) implement ISO certifications (9001:2015 and 21001:2018) alongside national evaluation by Greece's Higher Education Authority.

The PMIR project (BP2) employs PRINCE2 project management methodology to ensure quality throughout development and implementation.

Alignment with European Frameworks

Multiple practices explicitly incorporate EQAVET indicators into their quality assurance:

- BP1 addresses indicators 1, 2, 3, 4, 6, and 8
- BP3 focuses on indicators 1, 2, and 6
- Portuguese practices (BP4, BP5) align with indicators 6, 7, 8, and 9

Multi-stakeholder Review Processes

The AI4GreenSMEs project (BP9) employs a multi-stage review including co-creation, peer review at multiple levels, and satisfaction surveys from trainers and learners.

The Hellenic Open University (BP12) incorporates participant questionnaires and annual internal evaluation according to NQF Quality Manual procedures.

2.5 Alignment with European Frameworks

Integration with European Credit Systems

Several practices demonstrate sophisticated credit system integration:

- The PMIR certification (BP2) employs ECVET methodology to structure learning outcomes
- The Hellenic Open University's Blockchain course (BP12) assigns specific ECTS credits to each module
- The University of Thessaly's GIS program (BP10) allocates 8 ECVET credits
- The University of Athens' Business Writing Skills (BP11) assigns 3.2 ECVET credits

European Qualifications Framework Alignment

- The PMIR certification (BP2) positions itself at "EQF level between 7 and 8"
- The AI4GreenSMEs project (BP9) targets "Level 4-5" of the EQF
- Portuguese practices (BP4, BP5) integrate with their national qualification framework, which aligns with EQF

Digital Credential Standards Implementation

The University of Zaragoza (BP8) implements the European Learning Model v.3 with four integration levels, enabling direct Europass portfolio integration.

The AI4GreenSMEs project (BP9) uses "a Europass supplement associated to the certificate" to present competencies in a format understandable across European countries.

2.6 Impact on Learner Engagement and Outcomes

Personalized and Flexible Learning

Centro Qualifica (BP4) creates individualized learning pathways based on comprehensive competency assessment.

The OpenBadge Diversity (BP1) employs asynchronous delivery for flexibility in time management, particularly benefiting learners in disadvantaged areas.

Practical Application and Workplace Relevance

The AI4GreenSMEs project (BP9) requires learners to develop practical implementation roadmaps for their specific businesses.

The University of Thessaly's GIS program (BP10) provides hands-on experience with industry-standard software.

The PMIR certification (BP2) includes on-site training at companies experienced in sustainability reporting.

Innovative Pedagogical Approaches

The "Self-e" project (BP3) employs serious gaming through the "Agora Lake" platform for immersive entrepreneurship education.

The University of Zaragoza's Well-being program (BP8) incorporates contemplative and experiential learning approaches.

2.6 Labor Market Integration

Market Analysis and Skills Forecasting

The ANQEP initiatives (BP5) implement comprehensive analysis and forecasting to identify emerging workforce needs and develop targeted micro-credentials.

The PMIR certification (BP2) conducted a "Need Analysis Report" to identify requirements for sustainability reporting expertise across Europe.

High-Demand Workplace Competencies

Several practices address universally valuable professional skills:

- The University of Athens' Business Writing Skills program (BP11) targets communication competencies applicable across industries
- The FORTH innovation method (BP6) provides structured approaches to innovation management
- The OpenBadge Diversity (BP1) addresses emerging requirements for diversity awareness

Emerging Technical Skills

The AI4GreenSMEs project (BP9) specifically addresses the intersection of artificial intelligence and sustainability practices.

The University of Thessaly's GIS program (BP10) develops technical skills for environmental management, responding to climate change challenges.

2.7 Transferability and Scalability

Modular Design and Implementation

The Hellenic Open University's Blockchain course (BP12) consists of seven distinct modules that can be adopted individually or as a complete program.

The Portuguese UFCD system (BP5) provides exceptional flexibility through units ranging from 2-25 hours that can be implemented independently.

Documentation and Implementation Guidance

The University of Thessaly (BP10) provides detailed documentation of structure, content, and assessment approaches.

The "Self-e" project (BP3) created a comprehensive methodological guide for implementing its entrepreneurship education approach.

Accessible Technology

The AI4GreenSMEs project (BP9) enhances transferability through entirely online delivery with asynchronous options, minimizing infrastructure requirements.

The "Self-e" project (BP3) provides freely accessible digital resources through multiple platforms, removing financial barriers to implementation.

Cross-Sectoral Collaboration Models

The University of Zaragoza (BP8) demonstrates collaboration between universities and specialized organizations, providing a structured framework for partnerships.

The PMIR certification (BP2) showcases cross-sector and cross-border collaboration through formal memoranda of understanding among diverse organizations.

These transferability factors are particularly important as microcredential systems evolve and expand across Europe, providing blueprints that can be adapted to specific institutional and regional needs while maintaining quality standards and recognition value.

3. Conclusions

3.1 Key Conclusions

Our analysis of 12 best practices in microcredential implementation across Europe reveals a dynamic ecosystem with significant implications for the future of education and workforce development:

Structural Diversity with Unified Purpose

The remarkable diversity in implementation approaches—spanning multiple countries, educational sectors, and credential formats—demonstrates the adaptability of microcredential systems. This flexibility allows them to address specific educational and workforce needs while maintaining core quality standards. Despite their diversity, successful implementations share a common purpose: creating recognized, accessible pathways for validating shorter learning experiences.

Digital Technology as Enabler

Digital technologies are transforming microcredential systems by enhancing their accessibility, portability, and value. Advanced implementations like the University of Zaragoza's integration with Europass (BP8) and OpenBadge Diversity's LinkedIn-shareable badges (BP1) are creating more transparent credentialing ecosystems. These digital approaches make micro-credentials more secure, verifiable, and valuable for both learners and employers while reducing geographic barriers to participation.

Quality Assurance as Credibility Foundation

Robust quality frameworks underpin the credibility of micro-credentials across various implementations. Whether through ISO certifications as seen in Greek university practices (BP10, BP11), alignment with EQAVET indicators in Italian-led consortia (BP1, BP3), or comprehensive assessment methodologies in Portuguese national systems (BP4, BP5), these approaches ensure educational integrity while maintaining responsiveness to evolving needs. The most effective systems address institutional, instructional, curricular, assessment, and outcome dimensions simultaneously.

European Framework Alignment Enhances Recognition

Integration with established European frameworks substantially enhances microcredential recognition and portability. The explicit ECTS allocations in the Hellenic Open University's Blockchain course (BP12), EQF positioning of PMIR certification (BP2) and AI4GreenSMEs project (BP9), and adoption of European Learning Model v.3 at University of Zaragoza (BP8) create crucial links between micro-credentials and widely accepted recognition tools, enabling credential stackability and cross-border recognition.

Labor Market Responsiveness Drives Value

Successful implementations demonstrate exceptional responsiveness to labor market needs through systematic skills forecasting in Portuguese systems (BP4, BP5), targeting high-demand competencies like business writing (BP11) and innovation methods (BP6), addressing emerging technical requirements in blockchain (BP12) and AI applications (BP9), and industry involvement in credential development as seen in university-foundation collaborations (BP8). This alignment ensures micro-credentials deliver immediate value to both learners and employers.

Learner-Centered Design Enhances Outcomes

Innovative approaches to learning design significantly enhance engagement and outcomes. Personalized pathways in Centro Qualifica (BP4), practical applications in GIS training (BP10), innovative pedagogies like serious gaming in "Self-e" (BP3), collaborative learning elements in AI4GreenSMEs (BP9), and flexible delivery formats across multiple practices create experiences that are more engaging and effective than traditional approaches, particularly for adult learners balancing multiple responsibilities.

Collaborative Development Models Thrive

Cross-sectoral and international collaboration emerges as a defining characteristic of successful implementations. The PMIR certification (BP2) involving partners from five countries, "Self-e" project (BP3) implemented across six nations, and AI4GreenSMEs initiative (BP9) uniting diverse organizations demonstrate how collaborative approaches enhance credential development, recognition, and impact. These partnerships create credentials with broader acceptance and relevance than single-institution initiatives could achieve.

4. Recommendations from the study

4.1 Recommendations for Implementation at Microlevel

Based on our analysis, we offer the following recommendations for organizations seeking to develop or enhance microcredential systems:

Strategic Framework Development

Establish a comprehensive strategic framework addressing:

- Alignment with institutional mission and broader educational offerings
- Clear positioning within qualification systems
- Integration with existing recognition frameworks
- Quality assurance processes and sustainability planning

The framework should explicitly connect microcredential implementation to organizational objectives and learner needs, as demonstrated in Portuguese national approaches (BP4, BP5) and university extensions in Spain (BP7, BP8).

Multi-Stakeholder Engagement

Involve diverse stakeholders throughout development to enhance relevance and recognition:

- Industry representatives for labor market alignment
- Learners to understand accessibility needs
- Academic experts to maintain educational integrity
- Technology specialists for digital implementation
- Quality assurance professionals to ensure credibility

The collaborative models in PMIR certification (BP2) and AI4GreenSMEs (BP9) demonstrate how diverse stakeholder involvement enhances credential value and recognition.

European Framework Integration

Explicitly integrate with established European frameworks through:

- Assigning ECTS/ECVET credits based on workload and learning outcomes
- Positioning credentials within the European Qualifications Framework
- Aligning with European digital credential standards

- Referencing established competency frameworks in learning outcomes
- Incorporating EQAVET indicators into quality processes

The University of Zaragoza's Europass integration (BP8) and Hellenic Open University's detailed ECTS allocation (BP12) exemplify effective European alignment approaches.

Modular and Flexible Design

Implement modular structures with flexible delivery options by:

- Developing distinct learning modules that function independently or in combination
- Offering multiple delivery formats (online, blended, in-person)
- Creating personalized pathways based on prior learning
- Designing stackable credentials building toward comprehensive qualifications
- Enabling asynchronous participation to accommodate diverse schedules

The modular approach of Portuguese UFCDs (BP5) and the flexibility of OpenBadge Diversity (BP1) demonstrate how these design principles enhance accessibility and adaptation to learner needs.

Digital Infrastructure Investment

Invest in robust digital infrastructure supporting:

- Secure digital credentialing with appropriate metadata
- Learning platforms integrating content, assessment, and certification
- Credential verification through trusted systems
- Interoperability with major recognition platforms
- Learner-controlled credential sharing capabilities

The digital badge implementation at University of Siena (BP1) and CertiDigital project at University of Zaragoza (BP8) illustrate effective digital infrastructure approaches.

Labor Market Alignment Mechanisms

Establish systematic approaches ensuring ongoing labor market relevance:

- Implement regular skills forecasting and needs analysis
- Create advisory bodies with industry representation
- Develop agile curriculum processes for rapid adaptation
- Establish feedback loops with employers on graduate performance
- Monitor emerging workplace requirements and technological changes

The labor market analysis in Portuguese practices (BP4, BP5) and the need analysis phase in PMIR certification (BP2) demonstrate effective approaches to workforce alignment.

Innovative Learning Design

Incorporate innovative pedagogical approaches enhancing engagement:

- Design authentic learning experiences connected to workplace application
- Implement collaborative opportunities where appropriate
- Utilize technology for personalized learning pathways
- Develop realistic assessment validating practical competencies
- Create engaging multimedia content addressing diverse learning styles

The serious gaming platform in "Self-e" (BP3) and practical applications in GIS training (BP10) exemplify innovative learning approaches that enhance outcomes.

Comprehensive Quality Assurance

Develop multi-dimensional quality processes addressing:

- Alignment with established frameworks (ISO, EQAVET, institutional standards)
- Rigorous assessment methodologies appropriate to competency type
- Faculty/instructor quality standards and development
- Regular review processes for curriculum relevancy

- Learner satisfaction and outcome data analysis

The ISO certifications in Greek university practices (BP10, BP11) and EQAVET alignment in Italian-led consortia (BP1, BP3) demonstrate effective quality approaches.

Validation of Prior Learning

Implement systematic approaches to recognize prior learning through:

- Clear frameworks for evaluating non-formal and informal learning
- Transparent assessment methods that validate experiential knowledge
- Personalized pathways that complement existing competencies
- Digital tools documenting validated skills and competencies
- Connection to recognized qualification frameworks

The comprehensive validation approach in Centro Qualifica (BP4) provides an exemplary model for prior learning recognition that enhances credential accessibility while maintaining quality.

Transferability Planning

Enhance transferability potential through:

- Comprehensive documentation of implementation processes
- Development of guidelines for other institutional contexts
- Creation of modular resources adaptable to different settings
- Use of widely accessible technologies
- Establishment of collaborative networks supporting implementation

The explicit transferability considerations in OpenBadge Diversity (BP1) and the adaptable structure of Hellenic Open University's Blockchain course (BP12) demonstrate effective approaches to enhancing adoption across contexts.

4.2 Policy Recommendations

For policymakers seeking to enhance microcredential development at regional, national, or European levels the following are the recommendations from the best practices:

Regulatory Framework Development

Establish clear regulatory frameworks that legitimize micro-credentials while maintaining flexibility in implementation. The Spanish royal decree 822/2021 mentioned in BP7 provides an example of how national regulations can create spaces for microcredential innovation while maintaining connections to quality standards.

Recognition Ecosystem Enhancement

Develop coherent recognition systems that connect micro-credentials to formal qualifications while preserving their distinctive value. Portugal's integration of UFCDs within the National Qualifications Framework (BP5) demonstrates how micro-credentials can be positioned within comprehensive qualification systems.

Digital Infrastructure Support

Invest in shared digital infrastructure supporting secure credential issuance, verification, and recognition. The CertiDigital project supporting University of Zaragoza (BP8) illustrates how collaborative digital initiatives can enhance credential portability and recognition across institutions.

Quality Standard Development

Establish clear quality standards for micro-credentials that ensure credibility while accommodating diverse implementation approaches. The quality approaches in Portuguese national systems (BP4, BP5) demonstrate how standardized frameworks can support consistent quality across multiple providers.

Funding Model Innovation

Develop funding models that support microcredential development, particularly for addressing emerging skill needs and underserved populations. Cross-border funding initiatives like those supporting the AI4GreenSMEs project (BP9) show how targeted investment can stimulate innovation in credential design and delivery.

5. Final Considerations

The evolution of microcredential systems across Europe represents a significant innovation in educational recognition that bridges formal and non-formal learning while enhancing workforce development. As these systems continue to mature, maintaining balance between standardization for recognition and flexibility for adaptation remains crucial.

By learning from the diverse approaches documented in this study, stakeholders can develop microcredential implementations delivering substantial value to learners, employers, and broader economic objectives. These shorter credential formats offer promising solutions to the growing need for agile educational recognition systems that keep pace with rapidly evolving skill requirements in the European economy.

The continued sharing of best practices, collaborative development of common standards, and ongoing innovation in credential design will further enhance the impact of microcredential systems. As these approaches become more established, they have the potential to transform how learning is validated across diverse educational and professional contexts throughout Europe.

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ANNEX – THE BEST PRACTICES

BEST PRACTICE 1 (BP1) - PrEcIOUS

1. General Information

Practice Title

Training course within the Erasmus + Project PrEcIOUS and release of the OpenBadge Diversity University of Siena

Country/Region

- Italy;
- Greece;
- Poland;
- Lithuania

Dates of practice implementation

2024

Microcredential Issuing Body

The University of Siena, which is also the applicant of the Project, is in charge of releasing the microcredential within the European Consortium, made out of the following partners:

- Italy (The University of Siena; OpenCom issc);
- Greece (Aristotle University of Thessaloniki);
- Poland (Jagiellonian University);
- Lithuania (Klaipeda University)

2. Description of the Practice

Summary of the Practice

The Open badge *Diversity* is the final result of the training course attempting organized within the Erasmus + Project N. 2022-1-IT02-KA220-HED-000088686 "PrEcIOUS- Promoting Pluralistic Education In European Universities to Combat Invisible Discrimination related to LGBTQ+". The course is addressed to higher education institutions (HEI) and it is developed though an online platform where attendees will improve their awareness of the main concerns about invisible homophobia by stimulating reflections on stereotypes and promoting new perspectives in their academic context. At the end of the Training, participants (students, researchers, academics, and administrative staff) will get the certification and the Open Badge.

Practice Objectives

PO1: Understanding LGBTQIA+ Terminology: Gain knowledge of sexual and gender diversity terms related to LGBTQIA+ communities and learn to apply this understanding in both academic and everyday interactions.

PO2: Reflection on Stereotypes and Prejudices: Recognize the origins, mechanisms, and impacts of stereotype-driven behaviors and develop the ability to respond effectively in situations influenced by stereotypes.

PO3: Applying Intersectionality: Understand the concept of intersectionality and apply it to foster inclusivity within academic environments.

PO4: Comprehending Social Contexts: Learn about heteronormativity and its role in perpetuating assumptions and biases about LGBTQIA+ communities; familiarize oneself with the legal aspects of gender identities and well-being, and work towards deconstructing heteronormative behaviors and frameworks through an intersectional lens.

PO5: Developing Inclusive Communication: Master the fundamental principles of inclusive communication and recognize its significance in academic settings.

Operational/Business Transformation Process

The University of Siena, as part of the PrEcIOUS project consortium, implemented the micro-credentials system within the training part of the project outputs, because it fits the Project's goals of inclusion and accessibility. The same goal is pursued by the Council of the European Union, as paragraph 15. of the *Recommendation on a European approach to micro-credentials for lifelong learning and employability* (2022) underlines by saying that "Well-designed micro-credentials can (…) support inclusion and accessibility to education and training for a wider range of learners. This wider range of learners includes disadvantaged and vulnerable groups (such as people with disabilities, the elderly, low-qualified/skilled people, minorities …)".

To implement micro-credentials in the process, the Project consortium started by developing Framework of Learning Outcomes, then the online platform for the distant training offered by the partners. Finally, the educational material was developed in 6 modules and uploaded on the platform. The Final Certificate is considered by the consortium in terms of giving the training an official recognition at the end of the learning process.

3. Micro-credentials

Microcredential Title

OpenBadge Diversity University of Siena

Learning Outcomes

These learning outcomes are taken by the Framework of learning outcomes developed by the consortium. They are:

- LO1: Literacy knowledge: to understand sexual and gender diversity terminology and vocabularies related to LGBTQIA+ communities and know how to use them in academic and nonacademic contexts;
- LO2: Stereotypes and prejudices reflection: to comprehend roots, mechanisms and consequences of stereotypes and prejudice- based behaviors and being able to act in stereotyped situations;
- LO3: Intersectional mindset: to understand what intersectional is and apply it in an inclusive perspective within the academic context;
- LO4: Social context understanding: to get to know what heteronormativity is and how it is source of assumptions and prejudices regarding the LGBTQIA+ communities; to learn the legal framework about gender identities and well-being; to deconstruct heteronormalized behaviors and concepts in order to replace them in an intersectional way;
- LO5: Inclusive communication skills: to acquire the main rules of inclusive communication and its importance in academia.

Target group

Students at higher education levels EQF Levels 6, 7 or 8. Young people in general who want to acquire competences in the topic field. The whole academic community.

4. Workload and EQF Level

Workload

20 hours

EQF Level of Learning Experience

N/A

5. Evaluation and Participation

Type of Evaluation of learning outcomes

Each person attending the training has to pass all the six modules' tests with a score of minimum 75% . There are infinite attempts to pass the tests. There is no final test. To get the certificate, it is needed to pass all the 6 modules' tests. It is also necessary to complete the Customer Satisfaction Survey and fill out the final test on the Measurement of Invisible Homophobia on at the end of the course.

Form of Participation

Mode of participation (e.g., online, in-person, blended).

Online with an asynchronous mode.

6. EQAVET Quality Assurance

During the phase of planning of the training, PrEcIOUS's partners defined the qualitative and quantitative standards of evaluation of the competences that the individuals would be supposed to acquire. During this phase, target groups have been established according to the final goals of the training and the complexity of the academic environment. No type of difference about academic field of study and any personal characteristic has been consider defining the participants. This specific aspect assures the application of EQAVET "Indicator 8 for the prevalence of vulnerable groups". The goals and objectives of the training have been aligned to the project's aims. The educational material has been selected according to high standards of quality in the sources. The planning phase guarantees the application of:

- "Indicator 1: Relevance of quality assurance systems for VET providers";
- "Indicator 2: Investment in training of teachers and trainers from the EQAVET Framework".

The implementation part takes into consideration the resources required from a technical point of view (the digital platform, the high-tech support and material), the capacity of the users according to their pre-level of knowledge on the training course. The responsibilities and implementation process within the partners have been defined in transparency. For the evaluation phase, the training provides an Implicit test at the beginning and at the end of the training; surveys/quizzes per each module and the Customer Satisfaction Survey at the end of the course. All the evaluative tools, as well as the educational material, have been developed by the consortium, in the specific by the members staff with more expertise in the training topics. The Customer Satisfaction Survey is also fundamental for the review, to value the suitable of the training to the targets and to guarantee the replicability of the practice in the future, by assuring the implementation of:

- "Indicator 3: Participation rate in VET programmes";
- "Indicator 4: Completion rate in VET programmes".

Since the practice wants to develop self- awareness on invisible homophobia and combat gender identities prejudices, participants will be able to grow their empathy and understanding, two main characteristics required by the working market. Therefore, the practice considers "Indicator 6: Utilization of acquired skills at the workplace".

7. Integration and Recognition

The OpenBadge got at the end of the training will be usable on Linkedin, where every employer can check it out on the participant's profile. For the ones who attempt the training as students, the University of Siena recognizes them ECTS for the extra curricula activities.

The Erasmus+ National Agency has selected the project as best practice case example for other similar projects at Higher Education.

8. Transferability potential

The practice can be adapted and transferred to other training institutions and learning contexts because of its inner characteristics, such as:

- Time management: the training is online in asynchronous mode; therefore it guarantees flexibility in terms of time management for the participants;
- Accessibility: the online tuition of the course leads to a wider accessibility for people who live in disadvantaged areas with less physical learning contexts;

- Inclusion: the course adopts a nondiscriminatory approach in every phase of its making and implementation, becoming an example of inclusive approach for other trainings contexts, by taking into consideration specific vulnerable groups that could be involved in the learning process and in the developing of it;
- Transversal application: the topics faced by this practice are a huge issue for every working context, where individuals with different characteristics come into contact. The course helps participants to develop empathy, an openminded approach and correct communicative skills which are fundamental qualities/soft skills for an enjoyable working place and a competitive organization.

9. Link to the Microcredential or Issuing Institution

Link to the PrEcIOUS' Website: https://preciousproject.eu/proyect-background/
Link to Microcredential: https://sdskills.unisi.it/certificazione-open-badge/
Link to Issuing institution: https://www.unisi.it/internazionale/dimensione-internazionale/programmi-europei-di-formazione-e-mobilit%C3%A0/progettazione-19
Link to the training platform: https://preciousproject.eu/course/

10. Method used to collect the practice

- Direct access to the reference project materials;
- PrEcIOUS's project website

BEST PRACTICE 2 (BP2) - PMIR

1. General Information

Practice Title

PMIR- Project Manager of Sustainability Report Integrated Report

Country/Region

- Italy
- Germany
- Belgium
- Spain
- Norway

Dates of practice implementation

2019

Microcredential Issuing Body

The whole consortium was the issuing body. Partners signed a Memorandum of Understanding. Estra, the private holding company was the project leader.

The consortium was composed out of the following partners:

- Italy: Estra S.p.A., University of Siena and OpenCom issc;
- Germany: The Italian Chamber of Commerce for Germany;
- Belgium: BXL Europe;
- Spain: Chamber of Commerce, Industry and Services of Badajoz (Cámara Badajoz)
- Norway: Euromasc

2. Description of the Practice

Summary of the Practice

The "Project Manager of Sustainability Report / Integrated Report" (PMIR) Initiative aimed to establish and train a new professional role responsible for overseeing the reporting process of non-financial disclosures within organizations. PMIR acted as a bridge among various business sectors, enabling the coordination and development of comprehensive documents (Sustainability Report, Integrated Report) that represent the organization from a sustainability perspective.

After identifying this professional role, the project partners formulated the educational content for each knowledge area and the digital tools necessary to deliver online training to participants. Following the online training and successful completion of the final exam, participants got a final Certification released by the consortium.

Practice Objectives

PO1: elaboration of Need Analysis Report (research objective);
PO2: development of Educational Platform (digitalization objective);
PO3: development of Webinar and MOOC (digitalization objective);
PO4: development of Learning Outcomes Matrix (training objective);
PO5: online training through Webinars (training objective);
PO6: development of Integrated Report Database of Indicators (digitalization objective);

PO7: pilot testing e European mobility of participants (training objective).

The general objective was to provide people in the labor market with the acquisition of innovative competences that enhance their employability through a certification that is designed and recognized by labour market organizations, that is the "Project Manager of Sustainability Report/Integrated Report".

Operational/Business Transformation Process

Tre training implemented within the project has been useful for participants to obtain a certificate that recognized the role of Project Manager of Sustainability Report/Integrated Report at international level, to progress in their career and improve their employability. From a business perspective, the international certification of employees allows companies to enrich themselves with excellent practices, improving the performance of non-financial disclosure and the internationalization processes.

Main phases and resources of implementation:

- Theoretical teaching through a tailor make online platform (MOOC- Massime Open Online Courses);
- The training took the form of webinars for all (theoretical part - duration of 9 months)
- Organization of virtual or in-presence hands-on training for trained individuals at a company located in another European country;
- Provision to students of a digital platform, as a tool that guides them to elaborate the "Short sustainability report" of the company where hands-on training was implemented;
- Final examination through the evaluation of the elaborated "Short sustainability report", for those participants who carried out the hands-on training learning phase;
- Continuous guidance, support and evaluation by the expert team who guaranteed the quality of learning outcomes' achievement.
- Signature of the Memorandum of Understanding by partners for the mutual recognition and national promotion of the professional figure "Project Manager of Sustainability Report/Integrated Report".

MOOC AND WEBINARS:

- MOOCs are short video aimed at introducing the main concepts of the Webinars,
- 10 Training Webinars in English: 5 hours of webinar per area

Educational platform as a virtual community of practice:

- ✓ Showcase
- ✓ Accesses:
  - MOOC: with videos, webinars;
  - PPT or lessons in English;
  - Archive of Sustainability Literature;
  - Archive of LEX (European and National)
  - Area "exchange good practices": mini reports processed by the participants using the indicators database
  - Email helpdesk: pool of experts

Project online management, which is reserved for project management and exchange of documents between partners

3. Micro-credentials

Microcredential Title

Project Manager of Sustainability Report/Integrated Report

Learning Outcomes

The PMIR project uses the following definitions from the European Qualification Framework to define the concepts of Knowledge, Skills; Competence:

Knowledge: The outcome of learning, including facts, principles, theories, and practices related to a field of work or study.

Skills: The ability to apply knowledge and use know-how to complete tasks and solve problems. These can be cognitive (using logical, intuitive, and creative thinking) or practical (involving manual dexterity and the use of methods, materials, tools, and instruments).

Competence: The ability to use knowledge, skills, and personal, social, and/or methodological abilities in work, study, or professional development, described in terms of responsibility and autonomy.

From these definitions, the knowledge, skills, and competencies for the main work tasks of a Project Manager of Integrated Reporting have been described as aggregated units of learning outcomes under the following Areas of Competences:

LO1: Corporate Social Responsibility
LO2: Regulatory framework on non-financial information
LO3: Data Management
LO4: Project Management
LO5: Communication
LO6: Soft skills
LO7: Sustainability Reporting and Integrated Reporting

Compliance with these units of learning outcomes defines the qualifications of the Project Manager of Integrated Reporting, and successful completion has been awarded the PMIR certificate.

Target group

Participants to the Programme were selected from Italy, Spain, Germany, Belgium and Norway. The admission criteria were the following: - Education, background and experience; - Language competences; - Motivation.

CVs were evaluated according to 4 parameters: University degree in Economics, Engineering, Law, Political Sciences; professional experience; other experiences relevant to the theme of the project; computer skills.

Applicants completing the degree entry requirements subsequently to the application deadline were requested to provide a current transcript of exams. Eventual admission into the Programme were conditional upon receipt of documentation of the completed degree (by the start of the Programme).

Fluency in English (equivalent to level B2, demonstrated by the CV) was an admission requirement to the Programme that was entirely held in English.

Professional figures such as consultants and tax advisors were also encouraged to apply.

4. Workload and EQF Level

Workload

50 hours for the webinar (5 hours for each one of the 10 webinars); 10 days on-field training experience at a company with experience in sustainability reporting situated in another European country for the selected participants.

EQF Level of Learning Experience

EQF level between 7 and 8.

5. Evaluation and Participation

Type of Evaluation of learning outcomes

Final test at the end of the training program.

Final examination through the evaluation of the elaborated “Short sustainability report”, for those participants who carried out the hands-on training learning phase.

Form of Participation

Mode of participation (e.g., online, in-person, blended).

Online for the training provided as MOOC and webinars; in-person/virtual for the selected students with the highest score in the final test.

6. EQAVET Quality Assurance

During the project planning phase, the partners agreed to use various project management instruments, including a Gantt chart, a Quality plan, monitoring and check activities, and an evaluation plan. The methodology used to ensure a successful project implementation was PRINCE2, which enabled the partners to plan the project in a clear and transparent way, and correctly allocate material and financial resources. This aspect of preparing the training context and learning environment responds to the EQAVET "Indicator 1: Relevance of quality assurance systems for VET providers".

The MOOC and webinars were developed by experts and professors to analyze the real market needs and the participants' learning requirements. This attention to content quality aligns with the EQAVET "Indicator 6: Utilisation of acquired skills at the workplace".

Additionally, a series of quality indicators were established to guarantee the project's efficiency. Regarding the online training tools necessary to implement the educational material, great importance was given to ensuring the instruments' ease of use, accessibility for the users, and their contribution to concrete professional improvement.
To reach this purpose, the initial phase of the project was dedicated to a specific need analysis, aimed to acquire professionals and entrepreneurs' needs in the labor market). The attention dedicated to the need analysis and the implementation of the MOOC , responded to the EQAVET "Indicator 9: Mechanisms to identify training needs in the labor market".

The final evaluation phase showed that at least 80% of the training participants declared an improvement in their professional and entrepreneurial skills. "Indicator 4: Completion rate in VET programmes";

7. Integration and Recognition

The final certification proves that participants can fit the role of Project Manager of Sustainability Report/Integrated Report in various institutions and work contexts. The use of the ECVET (European Credit System for Vocational Education and Training) methodology allowed the learning outcomes to be elaborated in a way that facilitates their transfer and potential recognition across European Frameworks.

The partners signed a Memorandum of Understanding for the national recognition and promotion of the professional figure of "Project Manager of Sustainability Report/Integrated Report".

The training was implemented twice. The second time, it was managed by the University of Siena between October and December 2019 in the course "Project Manager of Sustainability Report/Integrated Report". The University recognized 6 ECTS (European Credit Transfer and Accumulation System) credits for the students who passed the final test at the end of the online training.

This showcases the project's commitment to developing a nationally and internationally recognized professional qualification in the field of sustainability and integrated reporting.

8. Transferability potential

The project serves as a model that can be easily replicated in other EU contexts and member countries, as it increases multiplier actions. It is built on an international management methodology, which can be transferred to other projects and countries. Its outputs may serve as training models for professionals in other sectors, and the results are linked to long-term benefits, considering the global relevance of sustainability practices to be managed and reported by companies. In fact, the second training, offered by the University of Siena, attracted the interest of participants from Latin America, what proves the importance of this professionalized training also in other geographical areas of the world.

The social sustainability of the project's results is ensured through:

- The educational platform containing all national and European bibliographic material, the MOOC, and the recorded webinars, which will constitute a knowledge base. The European Commission, DG XIII, has published a report on the European Union's research and development policy in the field of education and training.

New ecosystems for this project can be:

- Companies with a keen interest and sensitivity to the themes of social and integrated responsibility. The Commission's proposals for the European Social Fund are designed to encourage the Member States to employ highly qualified personnel to achieve their strategic objectives.
- The trained professionals, who would be able to coordinate the multiple functions and activities related to implementation and integrated/sustainability reporting not only at the national level, but also in the European context.

9. Link to the Microcredential or Issuing Institution

The course provided by The University of Siena: https://www.unisi.it/didattica/post-laurea/corsi-formazione/project-manager-sustainability-reportintegrated-report

10. Method used to collect the practice

PMIR's website: https://projectmanagerintegratedreport.eu/project-description/
Seminars: https://www.youtube.com/@pmirteam6081
OpenCom issc has been part of the project PMIR. For this reason, the Organization has now the chance to investigate the best practices for the implementation of micro-credentials referring to the project PMIR, thanks to the documentation access and the direct involvement in it.

BEST PRACTICE 3 (BP3) – Self-e

1. General Information

Practice Title

Project “Self- entrepreneurship: how to turn ideas into action” and the release of the certification: "Teaching Entrepreneurial Skills through Digital Sources (Foundation Level)"

Country/Region

- Italy;
- Spain;
- Greece;
- Finland;
- Latvia;
- Turkey.

Dates of practice implementation

2022

Microcredential Issuing Body

The whole consortium was the issuing body. Partners signed a Memorandum of Understanding. The European Consortium was coordinated by the VET institute I.I.S. “Benevenuto Cellini”, in Italy.

The European consortium was composed out of the following partners:

- Italy (I.I.S. “Benevenuto Cellini”; OpenCom issc; Regional School Office for Tuscany; Casartigiani Arezzo);
- Spain (Centro De Formacion Internacional Reina Isabel; Praktica Training Consulting S.L);
- Greece (Experimental High School of University of Patras);
- Finland (Lounais-Hämeen koulutuskuntayhtymä);
- Latvia (Liepajas Raina 6. Vidusskola);
- Turkey (Ortakoy 80.Yil Mesleki Ve Teknik Anadolu Lisesi)

2. Description of the Practice

Summary of the Practice

The project 2019-1-IT01-KA202-007769 "Self-e Self entrepreneurship: How to Turn Ideas into Action" enhanced entrepreneurship education for secondary school students at the European level.

In particular, the project pursued the improvement of students' entrepreneurial skills through the development and use of innovative ICT-based tools, such as a free digital game platform for entrepreneurship workshops in schools. The content of this training was based on the EntreComp framework.

The project also addressed teachers, aiming to enrich their teaching abilities with new training methods on the development of entrepreneurial paths for secondary school students. This was to be carried out using the serious gaming platform that was created. Teachers also improved their digital competencies according to the DigCompEdu Framework. They enriched these competencies with an online training, at the end of which they received the certification as "Teaching Entrepreneurial Skills through Digital Sources (Foundation Level)".

Practice Objectives

PO1: Acquisition of specific skills, knowledge, and competences related to entrepreneurship education.

PO2: Growth in professional knowledge and practice through the exchange of ideas and experiences with international colleagues, enriching the perspective on entrepreneurship education.

PO3: Increased understanding of the significance of integrating national and local peculiarities into the broader European framework of entrepreneurship education.

PO4: Improved ability to collaborate with other educators, fostering national and international networks to enhance entrepreneurship teaching.

PO5: Increased ability to elevate the entrepreneurial skills of students, preparing them for future challenges.

PO6: enhancement of teaching methodologies tailored to entrepreneurship.

Operational/Business Transformation Process

The project responds to the needs expressed in the 2018 Council Recommendation on Key Competences for Lifelong Learning, specifically addressing the entrepreneurial competence defined in the EntreComp and DigCompEdu frameworks. It also aligns with a 2018 Italian Ministry of Education circular that calls for entrepreneurship education based on practical, real-world methodologies integrated with digital skill development and business prototyping experiences.

The project has prompted reflection on the need to develop more inclusive teaching approaches and update teacher competencies to foster entrepreneurial, resilient, and action-oriented mindsets in students. It draws on pedagogical frameworks that emphasize adapting education to multidimensional thinking.

Through virtual simulation as an active learning tool, the project aims to develop students' systemic, critical, integrated, and digital thinking - the competencies of "citizens of sustainability" as defined by UNESCO. In this way, the project contributes to Sustainable Development Goal 4 and Italy's national plan for Education for Sustainability- 20 actions coherent with the Agenda 2030 (“Piano per l’Educazione alla Sostenibilità - 20 azioni coerenti con obiettivi Agenda 2030”, 2017). For the use of the virtual simulation platform by teachers, the consortium wrote a “Methodological guide for teachers to transfer entrepreneurial skills to students through the platform”. The Document is divided into 3 sections:

1. Methodological section on teaching entrepreneurial skills to students: the Business Model Canvas;
2. Behavioral-cognitive section: description of entrepreneurial competences, project management and soft skills according to the course “Teaching Entrepreneurial Skills through Digital Sources to Students of Secondary Schools (Foundation level);
3. Guide on how to use the platform “Agora Lake Virtual Simulation”

Plus, the project's implementation methodology is based on the PRINCE2 project management approach, enabling clear planning, appropriate resource allocation, quality criteria, monitoring, and risk management across the different project phases and outputs.

3. Micro-credentials

Microcredential Title

Certificate: "Teaching Entrepreneurial Skills through Digital Sources (Foundation Level)"

Learning Outcomes

A “Matrix of Learning Outcomes for Teachers in order to train students with entrepreneurial skills” was developed to identify the necessary learning outcomes for teachers of secondary educational level, in order to effectively train their students with Entrepreneurial skills (Eurydice, 2017) through digital resources (DigCompEdu, 2017). The identified learning outcomes are a guide for the requirements of the Serious Game and for the training of teachers through MOOCs and Webinar.

The Areas of Competences identified in the Matrix refer to the Notebook “Entrepreneurship education at school in Europe”, Eurydice, 2017:

LO1: Use a project-based approach.

LO2: Work on case study in addition to using textbooks.

LO3: Take an interdisciplinary approach.

LO4: Manage group processes and interaction within groups.
LO5: Act as coach (as opposed to a lecturer).
LO6: Use digital didactics through serious gaming.

These competences are "considered as necessary for an "entrepreneurial teacher", meaning a teacher who acts as a coach and helps students turn ideas into action and be the determining force in their lives" (p. 95).

Considering the relevance that digitalization of education is playing nowadays, we added a sixth Area of Competence "Use digital didactics through serious gaming", taking as a reference the "European Framework for the Digital Competence of Educators", DigCompEdu, 2017.

In order to connect the first five areas of competences with the entrepreneurship education, the EntreComp Framework (2016) has been taken as a reference document for the elaboration of learning outcomes. With respect to the sixth area "Use digital didactics through serious gaming", the DigCompEdu Learning outcomes have been taken.

The identified learning outcomes of the Matrix have been thought as realistically achievable by teachers through the outputs that the Self-E project will produce, the laboratories that will be carried out and the training offered.

Target group

All teachers of VET Secondary Education Institutions at EQF Level 3 and 4.

4. Workload and EQF Level

Workload

About 3hours and 20 minutes (10 video tutorials of maximum 20 minutes each one).

EQF Level of Learning Experience

N/A

5. Evaluation and Participation

Type of Evaluation of learning outcomes

Final quiz.

Form of Participation

Mode of participation (e.g., online, in-person, blended).

Online in asynchronous mode

6. EQAVET Quality Assurance

The microcredential's quality has been meticulously assured through the establishment of rigorous standards, adeptly addressing the evolving needs of students in transversal learning and the need of fostering stimulating educational milieus where entrepreneurship is seamlessly integrated into the pedagogical journey. This comprehensive approach has significantly contributed to the advancement of two EQAVET indicators:

- "Indicator 6: Utilization of acquired skills at the workplace";
- "Indicator 9: Mechanisms to identify training needs in the labor market"

During the implementation of the Serious Game platform, the European Consortium, in conjunction with students and educators serving as end-users, engaged in a collaborative and iterative process to ensure the platform's development aligned with exacting quality expectations. This concerted effort aimed to guarantee that the platform remained target-oriented and exhibited usability. Prior to the commencement of the pilot phase, all Consortium partners conducted a thorough evaluation of the platform.

The Networking Game's simulation scenarios underwent rigorous quality assessment by partners who initially experienced them, providing invaluable insights. Educators lauded the simulation platform and MOOC for their

functionality, accessibility, and capacity to enhance professional competencies in the realm of entrepreneurship education. Notably, the comprehensive Guide furnished by the partners elucidated the requisite competencies and optimal utilization of the platform, serving as an important tool in ensuring accessibility for the teachers.

The MOOC platform's development, spearheaded by the European Consortium, meticulously considered educators' needs and the necessity for flexible training modalities. User satisfaction was systematically evaluated through pilot testing during the MOOC implementation. The Consortium demonstrated commitment to quality assurance by maintaining vigilant monitoring throughout the entire training phase, providing individualized attention to each teacher. This approach underscores the dedication to teachers' satisfaction and adherence to stringent quality standards. For this reason, the project promoted:

- Indicator 1: Relevance of quality assurance systems for VET providers.

Teachers' feedback played a pivotal role in refining the MOOC platform during the review phase. Furthermore, teachers were called to value the video tutorials provided, as well. All feedback was meticulously incorporated into the system analysis, informing project follow-up strategies, and ensuring the sustainability of results.

The initiative placed significant emphasis on the teacher's role, recognizing the importance of continual skill enhancement in response to emerging educational needs in line with the labor market. This acute awareness prompted the project to actively promote the application of another crucial EQAVET Framework indicator:

"Indicator 2: Investment in training of teachers and trainers"

7. Integration and Recognition

The microcredential "Teaching Entrepreneurial Skills through Digital Sources (Foundation Level)" issued through this project is integrated and recognized as:

- Recognition by European Consortium partners: The final Certificate of the online training is recognized by all the institutions involved in the project consortium. This provides a base level of recognition across multiple European countries;
- Value for secondary school teachers: The certificate represents added value for secondary school teachers who completed the training, as it demonstrates their upskilling in providing entrepreneurial skills to students. This can enhance their professional development and capabilities;
- Professional development documentation: The final certificate provides tangible documentation of teachers' professional development that can be used to demonstrate their skills and training on entrepreneurial skills teaching methodologies;
- Institutional recognition: The certificates bring value not just to individual teachers, but also to their institutions, which can use them to showcase staff development and participation in the training;
- National recognition: The involvement of the Regional School Office for Tuscany, representing the Ministry of Education and Merit, provides a degree of national-level recognition and endorsement of the project and its outcomes;
- Broader awareness: The project's dissemination activities, including presentations at events like Didacta 2019 in Florence, helped to spread awareness and recognition of the certificate among educational institutions across Italy and potentially other countries.

By involving national education authorities, and creating a network of recognizing institutions across multiple countries, this microcredential is positioned for broad recognition and integration into professional development pathways for teachers focused on entrepreneurship education.

8. Transferability potential

The practice developed in the project can be adapted and transferred to other contexts and training institutions for a few key reasons:

- Flexibility of Teaching Methodologies: The teaching methods can be adapted to fit the needs of trainers/teachers and target groups;
- Form of Tuition: The project's learning outcomes have been made immediately accessible to a wider audience. Thanks to the web platform (self-e.eu), the serious game "Agora Lake" (games.self-e.eu), the teacher training (training.self-e.eu), the YouTube channel, and social media pages (Facebook, Instagram), all project contents are available for free. Access to the serious game online only requires a free registration.

These materials can provide long-term support for the project's sustainability, enabling teachers to use them to train students.

The results developed are fully transferable and adaptable to other school grades and EU countries not directly involved in the project. This transferability is reinforced by the use of English for all resources, making it easier to expand the community of practice and participate in other European platforms for innovative teaching. The free access encourages schools and teachers to utilize the project's tools to make lessons more interactive and engaging. The project's social networks will continue to promote and raise awareness.

Additionally, the project's dissemination actions continue even after its closure, promoting it outside the project consortium. A series of training sessions with Tuscan schools have been launched in collaboration with the Regional School Office for Tuscany, aimed at presenting the "Agora Lake" game and the available teacher training. The goal is to also engage companies and the community in understanding the usefulness of tools to encourage entrepreneurial skills in young people and improve the quality of education through direct teacher involvement.

Therefore, several institutions could benefit from the transferability of this practice:

- Public institutions linked to education, as well as business and industry associations, can replicate this model for entrepreneurial skills training.
- Regional school offices, employment agencies, chambers of commerce, industrial and professional associations can use the Self-e model to transfer entrepreneurial skills to adults entering the job market.
- Academic contexts, where professors and experts can be trained through the course and final certification to transfer entrepreneurial skills to students, researchers, and recent graduates.

9. Link to the Microcredential or Issuing Institution

MOOC and activities: https://training.self-e.eu/

10. Method used to collect the practice

Self-e 's website: https://www.self-e.eu/en/ ;

OpenCom issc has been part of the project. For this reason, the Organization has now the chance to investigate the best practices for the implementation of micro-credentials making references to the project Self-e, thanks to the documentation access and the direct involvement in it.

BEST PRACTICES E&D

BEST PRACTICE 4 (BP4) – Centro Qualifica

1. General Information

Practice Title

"Centro Qualifica"

Country/Region

Portugal

Dates of practice implementation

Started January de 2014 still in use

Microcredential Issuing Body

Centro Qualifica

2. Description of the Practice

Summary of the Practice

The best practice of this initiative is the capability of validate skills, qualification, and the competences and knowledge acquired with working experience.

Centro Qualifica stands out as a best practice for adult education and workforce development due to its comprehensive, individualized approach and its impact on personal growth and local economic resilience.

Practice Objectives

Centro Qualifica seeks to create a more skilled, adaptable workforce by making education accessible and relevant to adult learners, ultimately contributing to personal fulfillment, employability, and social inclusion.

The primary objective of *Centro Qualifica* is to enhance the skills, qualifications, and employability of adults in Portugal by providing pathways for lifelong learning, skill validation, and certification. Specifically, *Centro Qualifica* aims to:

- Promote Lifelong Learning: Encourage adults to continuously develop their skills and knowledge, fostering a culture of lifelong education.
- Validate and Certify Prior Learning: Recognize and formalize the skills and knowledge that individuals have gained through informal or non-formal experiences, such as work or personal life, by assessing and certifying their competencies.
- Increase Employability and Career Opportunities: Help adults improve their qualifications to boost their employment prospects and ability to adapt to the evolving job market.
- Reduce Educational Inequalities: Provide equitable access to education and certification opportunities for individuals who may not have completed formal schooling or have limited access to conventional education systems.

- Contribute to Social Inclusion and Economic Mobility: Support social integration by enabling adults, especially those from disadvantaged backgrounds, to achieve recognized qualifications that enhance their personal and professional development.
- Align Training with Market Needs: Ensure that the skills and certifications offered meet the needs of the local labor market, helping to bridge skill gaps and improve local economic resilience.

Operational/Business Transformation Process

In the Operational/Business Transformation Process it can be related to:

- Targeted Guidance and Counseling: Centro Qualifica offers personalized support for adults, addressing individual learning needs and career aspirations. This personalized approach encourages effective engagement and goal-oriented outcomes.
- Validation of Prior Learning (VPL): The center uses the VPL methodology, which recognizes informal and non-formal skills adults have gained through work or life experiences. This validation allows participants to expedite their education and certification processes.
- Flexible, Accessible Learning Paths: The program offers flexible, modular courses that fit the diverse schedules and commitments of adult learners, making it accessible to a wide range of participants.
- Impact on Social Mobility and Inclusion: By enabling adults to pursue new qualifications or enhance existing skills, Centro Qualifica plays a crucial role in promoting social mobility and reducing educational inequalities.
- Collaboration with Local Employers and Stakeholders: The program collaborates with local businesses and community organizations to align its training and qualifications with market needs, helping bridge skill gaps in the local economy.

3. Micro-credentials

Microcredential Title

The micro credentials are called UFCDs what stands for Short Training Units.

Learning Outcomes

Depends on the area you are trying to get certification, but in the end, you should be ready and certified to perform the tasks and have knowledge for it. The Centre Quaifica tailors the course to the need of the person and adds what is missing.

Target group

The target group are adults and young people that want to validate or improve their skills and knowledge for a better fit in the labour maket

4. Workload and EQF Level

Workload

The workload is going to be different to every person and subject, due the personalized analyse, and how many competencies are missing for you to get the requested certification.

EQF Level of Learning Experience

N/A

5. Evaluation and Participation

Type of Evaluation of learning outcomes

Evaluation Criteria can be different to every, subject to be studied, and it can be:

- Theoretical

- Practical
- Theoretical and practical

Form of Participation

Mode of participation (e.g., online, in-person, blended).

The participation form can be:

- In virtual environment
- Presential
- Or Blended

6. EQAVET Quality Assurance

Centro Qualifica employs several mechanisms to ensure the quality of its micro-credentials and accreditation, maintaining high standards for adult education and skill certification. Here are some of the core mechanisms:

- Standards-Based Competency Framework (National Qualifications Framework (NQF), ensuring that all certifications meet national standards for specific skill levels)
- Rigorous Validation of Prior Learning (VPL) Process
- Ongoing Quality Assurance and Audits
- Collaboration with Employers and Industry Stakeholders

The EQAVET Framework closes references would be:

- Indicator 6: Utilisation of acquired skills at the workplace:
- Indicator 7: Unemployment rate in the country
- Indicator 8: Prevalence of vulnerable groups
- Indicator 9: Mechanisms to identify training needs in the labour market

7. Integration and Recognition

The integration and recognition is made through the Qualifica Passaport that includes the RIC (Individual Skills Record).

The Qualifica Passport is a digital tool used to record qualifications and competencies that adults have acquired or developed over their lifetime, as well as to guide them in identifying suitable learning pathways.

Based on the accumulation of previously achieved learning outcomes and skills gained by the adult, the Qualifica Passport simulates various possible qualification pathways that can lead to new qualifications and/or educational and professional progression.

As a priority of the National Qualifications System is to increase the qualification level of adults, the Qualifica Passport prioritises pathways that support adults in completing or enhancing their qualifications, including dual certification qualifications.

8. Transferability potential

The transferability potential of *Centro Qualifica* is high due to its flexible, modular structure; robust recognition of prior learning; digital tracking tools, provide learners with qualifications that are not only relevant to the Portuguese labor market but also portable and recognized in international contexts, promoting greater career mobility and cross-border opportunities by aligning with EQF and ECVET, for adult workers.

9. Link to the Microcredential or Issuing Institution

Link to Issuing institution: https://www.qualifica.gov.pt/#/

10. Method used to collect the practice

Desk research.

BEST PRACTICE 5 (BP5) – Upskilling and Reskilling Initiatives

1. General Information

Practice Title

Upskilling and Reskilling Initiatives

Country/Region

Portugal

Dates of practice implementation

Started March de 2020 still in use

Microcredential Issuing Body

ANQEP(National Agency for Qualification and Vocational Education)

2. Description of the Practice

Summary of the Practice

The ANQEP, as part of Portugal's National Qualifications System, offers micro-credentials in various vocational skills that meet national standards. These micro-credentials focus on key industries such as renewable energy, healthcare, hospitality, and manufacturing

Practice Objectives

ANQEP's programs are highly aligned with Portugal's strategic economic sectors and are designed in partnership with employers to ensure that they address skill gaps in the workforce. The credentials are competency-based, meaning they focus on practical skills that are immediately applicable in the workplace, and they are modular, allowing learners to build competencies over time.

- These best practices emphasize: flexibility, employability, and the alignment of education with labor market needs, making Portugal's approach to micro-credentials a strong model for adult education and workforce development.

Operational/Business Transformation Process

Business and operational transformation processes have made ANQEP's upskilling and reskilling initiatives a model of adaptability, effectiveness, and responsiveness. By focusing on industry alignment, digitalization, modularity, and inclusivity, ANQEP has created a framework that helps adult learners continuously upgrade their skills while directly supporting Portugal's economic and labor market needs.

In Portugal the ANQEP has implemented a well-structured operational and business transformation process for its upskilling and reskilling initiatives. These processes are designed to respond effectively to changing labor market needs, promote lifelong learning, and provide adult learners with relevant skills.

Some of the operational and business transformation processes of ANQEP are:

- Labor Market Analysis and Skills Forecasting
- Competency-Based Curriculum Development
- Partnership with Employers and Industry Stakeholders
- Digitalization of Training and Skill Validation
- Streamlined Qualification Pathways and Recognition of Prior Learning (RPL)

3. Micro-credentials

Microcredential Title

The micro credentials are called UFCDs what stands for Short Training Units

Learning Outcomes

Each UFCD covers specific skills or competencies in a given field, allowing learners to focus on targeted areas of knowledge that are relevant to their career or skill goals

Target group

The target group of this initiative its anyone that want to improve their skill

4. Workload and EQF Level

Workload

The workload is going to be different UFCD, each UFCD, can be from 2 hour to 25 hours, depending of the subject.

EQF Level of Learning Experience

N/A

5. Evaluation and Participation

Type of Evaluation of learning outcomes

Evaluation Criteria can be different to every, subject to be studied, and it can be:

- Theoretical
- Practical
- Theoretical and practical

Form of Participation

Mode of participation (e.g., online, in-person, blended).

The participation form can be:

- In virtual environment
- Presential
- Or Blended

6. EQAVET Quality Assurance

To ensure that ANQEP's micro-credentials are high-quality, consistent, and aligned with both educational and labor market standards. This rigorous approach not only boosts the value of UFCDs for learners and employers but also enhances Portugal's overall workforce development system:

- Alignment with the National Qualifications Framework
- Standardized Curriculum and Learning Outcomes
- Rigorous Accreditation of Training Providers
- Competency-Based Assessment
- Validation of Prior Learning
- Feedback and Continuous Improvement Loops
- Ongoing Training and Certification of Instructors
- Compliance Audits and External Quality Reviews

The EQAVET Framework closes references would be:

- Indicator 6: Utilisation of acquired skills at the workplace:
- Indicator 7: Unemployment rate in the country
- Indicator 8: Prevalence of vulnerable groups
- Indicator 9: Mechanisms to identify training needs in the labour market

7. Integration and Recognition

The integration and recognition of ANQEP's micro-credentials are achieved through a robust framework that ensures alignment with national and European qualifications standards, supports the transfer of skills and credits, and facilitates industry and employer collaboration. Through validation of prior learning, digital certification, and stackable qualifications, ANQEP micro-credentials are designed to be highly portable, recognized both nationally and internationally, and responsive to the needs of the labor market. These mechanisms help ensure that ANQEP's micro-credentials are valuable and recognized by both employers and educational institutions, enhancing the employability and lifelong learning opportunities for Portuguese adults.

The integration and recognition of micro-credentials offered by *Agência Nacional para a Qualificação e o Ensino Profissional* (ANQEP) in Portugal are fundamental components of the broader strategy to align vocational training and adult education with the needs of the labor market, as well as to enhance the portability and visibility of these credentials.

The mechanisms through which integration and recognition are achieved are Alignment with National Qualifications Framework (NQF) and European Qualifications Framework, Integration into the National Qualifications Catalog, Integration with the European Credit System for Vocational Education and Training also Certification and Digital Credentials and Industry and Employer Recognition.

8. Transferability potential

The mechanisms used by ANQEP's on upskilling and reskilling initiatives provide learners with qualifications that are not only relevant to the Portuguese labor market but also portable and recognized in international contexts, promoting greater career mobility and cross-border opportunities by aligning with EQF and ECVET.

9. Link to the Microcredential or Issuing Institution

Link to Issuing institution: https://www.anqep.gov.pt/np4/home

10. Method used to collect the practice

Desk research.

BEST PRACTICE 6 (BP6) - FORTH

1. General Information

Practice Title

FORTH innovation method

Country/Region

World

Dates of practice implementation

Started 2006 still in use

Microcredential Issuing Body

Gijs van Wulfen

2. Description of the Practice

Summary of the Practice

The Fourth Innovation Method Practice represents a holistic and dynamic approach to innovation. By embracing disruptive technologies, data-driven strategies, open collaboration, rapid prototyping, and sustainability, this method fosters transformative, impactful solutions that are aligned with current and future market demands. It creates an environment where innovation can be continuously refined, improved, and scaled.

This method typically refers to strategies or approaches in innovation that are transformative, highly effective, and at the cutting edge of technology or processes. While the specific context of "Fourth Innovation Method" may vary across different sectors or organizations, the general idea involves practices that are aimed at accelerating innovation in a sustainable and scalable manner.

Practice Objectives

The objectives of the Fourth Innovation Method by Gijs van Wulfen are focused on creating groundbreaking innovations that are structured, customer-centric, and aligned with business goals. By fostering a culture of collaboration, empowering teams, and validating ideas quickly, the method seeks to accelerate the innovation process, reduce risks, and ensure that the innovations developed are both impactful and sustainable in the long term. Through a focus on market relevance and the commercialization of ideas, the method aims to ensure that the innovations created meet actual needs and can be successfully implemented in the marketplace.

- This method is designed to help organizations create breakthrough innovations by combining creativity with structured processes. Gijs van Wulfen's innovation methodology focuses on enabling teams and organizations to generate valuable and novel ideas while ensuring these ideas are successfully implemented. The method is particularly centered around the idea that innovation is a process that can be systematically managed to lead to sustainable and impactful results.

Operational/Business Transformation Process

The method is particularly centered around the idea that innovation is a process that can be systematically managed to lead to sustainable and impactful results. It is designed to help organizations create breakthrough innovations by combining creativity with structured processes. Some of the processes that organizations can use to navigate the complexities of business transformation and ensure that innovation is a continuous, structured, and impactful part of their operations are:

- Idea Generation & Problem Definition
- Concept Development & Refinement
- Prototyping & Testing
- Implementation & Scaling
- Sustaining Innovation & Continuous Improvement
- Leadership & Culture Transformation

3. Micro-credentials

Microcredential Title

Fourth Innovation Method

Learning Outcomes

The learning outcomes from the Forth Innovation Method by Gijs van Wulfen are:

- Understanding the Innovation Process
- Generating Creative, Breakthrough Ideas
- Defining and Framing Innovation Challenges
- Evaluating and Selecting Ideas for Development
- Developing and Refining Innovation Concepts
- Prototyping and Testing Innovations
- Scaling and Implementing Innovations
- Fostering a Culture of Innovation
- Applying the Fourth Innovation Method to Real-World Scenarios
- Measuring and Evaluating the Impact of Innovation

Target group

The target group are people that work in the area of innovation or provide training, products or services in the area.

4. Workload and EQF Level

Workload

The duration of this course is 6 days

EQF Level of Learning Experience

N/A

5. Evaluation and Participation

Type of Evaluation of learning outcomes

Evaluation Criteria can be different to every, subject to be studied, and it can be:

- Theoretical

Form of Participation

Mode of participation (e.g., online, in-person, blended).

The participation form can be:

- Presential
- Online

6. EQAVET Quality Assurance

Personal assessment by the certified trainers or the creator of the method.
The EQAVET connection is:
Indicator 2: Investment in training of teachers and trainers
Indicator 6: Utilization of acquired skills at the workplace

- Indicator 9: Mechanisms to identify training needs in the labour market

7. Integration and Recognition

This method is recognized and validated by the top experts in area of innovation.

8. Transferability potential

The Fourth Innovation Method has strong transferability potential across a wide variety of contexts and institutions. By offering a clear, structured process, it enables organizations to innovate effectively and efficiently, regardless of their size, sector, or geographic location. Whether applied in business, education, the public sector, non-profits, or global collaborations, the method provides a flexible, scalable framework for driving innovation and solving complex challenges.

9. Link to the Microcredential or Issuing Institution

Link: https://www.forth-innovation.com/

10. Method used to collect the practice

Desk research

BEST PRACTICES MEUS

BEST PRACTICE 7 (BP7) - FUAM

1. General Information

Practice Title

University Micro-credentials at FUAM (Fundación Universidad Autónoma de Madrid)

Country/Region

Spain - Madrid

Dates of practice implementation

2025

Microcredential Issuing Body

Fundación Universidad Autonóma de Madrid

2. Description of the Practice

Summary of the Practice

The Fundación Universidad Autónoma de Madrid (FUAM) is a foundation belonging to the university, and delivering education outside the university degrees. This education is framed in the Spanish law (royal decree 822/2021 establishing the organization of university education and the procedure ensuring its quality. According to this regulation, universities may provide their own courses of less than 15 ECTS that may or may not require a previous university degree in the form of micro-credentials or micromodules, which allow for the certification of learning outcomes linked to short term training activities. These courses must be short (less than 150 hours of training) and oriented towards lifelong learning, with a practical focus.

https://fuam.es/microcredenciales/

In this best practice, we will focus more in particular on the microcredential course: Master's degree on composting – 2nd edition.

More information on this course: https://fuam.es/curso-corto/microcredencial-curso-de-maestria-en-compostaje-ed-2/

Practice Objectives

The objective of this microcredential course is to train staff able to managing domestic and community composters and agro-composting areas in an integrated manner. It is offered by the faculty of sciences of the Autonomous University of Madrid (UAM) without any kind of requirement to access the course.

The objectives of the implementation of micro-credentials by the FUAM are:

- Strengthen the productive fabric
- Promote motivation and talent retention
- Benefit retraining

- Reduce unemployment rates
- Strengthen the workforce
- Strengthen the relationship between the university and the company

Operational/Business Transformation Process

The development of micro-credentials is the answer given by the Autonomous University of Madrid to the training challenges the companies face on a daily basis. They thus address in particular companies and staff in need of updating skills and knowledge, in a continuous training framework.

For FUAM, micro-credentials are tought as "tailored training that meets the training demands of the business sector and promotes the integration of our graduates into the labour market." (https://www.uam.es/uam/noticias/microcredenciales-2023) They support the acquisition of new knoeldge and skills to improve labour perspectives and career development, so have a high labour market focus.

This European certification, accredited by the Autonomous University of Madrid, offers companies the possibility of retraining their employees through specific training courses.

3. Micro-credentials

Microcredential Title

Master's degree course in composting (ed. 2)

Learning Outcomes

No specific information is available on the learning outcomes of the course, however, the modules of this course are detailed as follows:

The course is divided into 5 blocks:

- Block 1. Biowaste management.
  - Module 1. Waste and its management.
  - Module 2. Decentralized composting
- Block 2. Composting process and composter management.
  - Module 3. The composting process.
  - Module 4. Incidents in composting. Causes and solutions.
  - Module 5. Process control.
  - Module 6. Management of domestic and community composting processes.
- Block 3. Communication skills and environmental awareness.
  - Module 7. Communication techniques and skills.
- Block 4. Prevention of Occupational Risks.
  - Module 8. Prevention of Occupational Risks in domestic and community composting.
- Block 5. Composting projects.
  - Module 9. Composting projects.
  - Module 10. Mater Menu.

Target group

4. Workload and EQF Level

Workload

The course will take place in winter 2025, with a 3 to 4 hours workload per day, 4 days per week, during 4 weeks. The total workload for this course is 52 hours.

EQF Level of Learning Experience

N/A

5. Evaluation and Participation

Type of Evaluation of learning outcomes

Evaluation criteria:
Theoretical part: 40%
Practical part: 50%
Final course project: 10%

Form of Participation

Mode of participation (e.g., online, in-person, blended).

This course has a blended modality. It will be delivered through the virtual campus of the (Spanish) State Network of Local Entities for domestic and community composting on the one hand, and in the Agroecological area of the UAM on the other side.

6. EQAVET Quality Assurance

No reference is found to the EQAVET quality assurance system.

The FUAM is associated to the UAM, an important university in Spain, and relies on the quality and accreditation procedures of this university to deliver the micro-credentials. Thus, it is somehow aligned with EQAVET indicator nº1 – relevance of quality assurance systems for VET providers (and HEIs quality assurance systems).

Also, there is an important reference to the indicator nº6 – utilization of acquired skills at the workplace, at this course is based on a very practical and vocational oriented format.

7. Integration and Recognition

The micro-credentials offered by FUAM are certified digitally, with a technology that ensures their validity and recognition in Europe and promotes their portability.

8. Transferability potential

This best practice presents the case of a Foundation associated to a Spanish University. The entity has a strong credibility at academic level, as it is used to deliver formal Higher Education. However, we can see how they are able to move out the formal education to propose extra-curricular courses that have a strong labour focus, which meet the objectives of MicroC'VET of exploring microcredential systems in non-formal and informal contexts.

9. Link to the Microcredential or Issuing Institution

Write here your text
Link to Microcredential: https://fuam.es/curso-corto/microcredencial-curso-de-maestria-en-compostaje-ed-2/
Link to Issuing institution: https://fuam.es/microcredenciales/

10. Method used to collect the practice

Contact with university of Valencia, recommendations, desk research.

BEST PRACTICE 8 (BP8) - Edelvives

1. General Information

Practice Title

Well-being and development of interiority in school contexts by the university of Zaragoza Vice-Rectorate of digital education and lifelong learning – Fundación Edelvives

Country/Region

Spain - Zaragoza

Dates of practice implementation

2024-2025

Microcredential Issuing Body

University of Zaragoza

2. Description of the Practice

Summary of the Practice

The University of Zaragoza (UNIZAR) is one of the early adopters of the CertiDigital project, which arises from the UniDigital call, funded by the Recovery, Transformation and Resilience plan of the Government of Spain and the European Union Next Generation. The goal o the CertiDigital project is the development of digital certification service for the Spanish University System within the framework of the European Higher Education Area, and is particularly relevant for the implementation of micro-credentials.

In this particular case, the microcredential is proposed in collaboration with the foundation Edelvives, which is a foundation dedicated to childhood protection, with the objective of supporting educational entities in their processes and projects beyond the materials and resources of the classroom.
https://microcredenciales.unizar.es/microcredencial/189
https://www.fundacionedelvives.org/es/quienes-somos-y-que-hacemos

Practice Objectives

This course addresses students registered in education programmes in the field of psychopedagogy, including degrees and master's degrees, as well as workers currently in a labour context.

- - Respond to the demand for structured and specialized training in interiority from a global, introductory approach.
- -Know and delve deeper into the content of a school interiority project.
- -Practice the techniques that we can take to the classroom.

Operational/Business Transformation Process

For the certification of micro-credentials, the University of Zaragoza (UNIZAR) is working in coordination with the CERTIDIGITAL Project. This project aims to create a digital credential service for the Spanish university system aimed at the digitalization of degrees, academic certificates and new qualifications such as micro-credentials.

The Regulations for the University of Zaragoza's Own Teachings allow micro-credentials in the categories of

- Lifelong Education: University Micro-credentials. They must be included in the academic management systems of the University and are issued by the Rector. They are signed with the seal of a specific body for micro-credentials.
- Continuing Education: Specific Continuing Education Activities of less than 15 ECTS credits that are certified in micro-credential format. They can be managed by the Coordinating Body that teaches them and reported on by the person responsible for them. They are signed with the seal of a specific body for micro-credentials.

3. Micro-credentials

Microcredential Title

Well-being and development of interiority in school contexts

Learning Outcomes

Pedagogical projects based on the work of interiority aim to enable students to become "the best version of themselves." Thus, teachers achieve this by delving into concepts such as what Interiority is, intra and interpersonal intelligences and fundamentally the knowledge of techniques to develop the being in relation to the other. Spiritual Intelligence, and also:

- Spiritual intelligence, Interiority. Compassion as the foundation of Interiority.
- Contemplatives in action. Interiority and social commitment.
- Interiority for everyday life. Techniques for harmonization and body expression. Silence and contemplation.
- Mindfulness. Conceptual bases. Attitudes and techniques.
- The Interiority project in an educational center. The EN TI and BYPASS projects for centers and families.

The full programme of the course is also available and made of 5 units:

- Unit 1. What is spiritual intelligence and interiority? Why cultivate interiority?
  - Educational challenges and pedagogical keys
  - New educational paradigm
  - The importance of attending to the spiritual in the educational field
- Unit 2. Spiritual intelligence and interiority
  - Spiritual intelligence and interiority
  - The spiritual religious person and his/her experience
  - The spiritual religious experience
  - Guidelines for projects that integrate interiority
- Unit 3. Interiority and daily life.
  - Technique, experience and essence
  - Daily conflict as an opportunity for encounter
- Unit 4. Mindfulness. Conceptual bases.
  - Attitudes and techniques.
- Unit 5. The Interiority project in an educational center.
  - Contextualization of education in the 21st century.

Target group

4. Workload and EQF Level

Workload

Between 25h and 49h for 1 ECTS.

Total ECTS of the course: 4

EQF Level of Learning Experience

N/A

5. Evaluation and Participation

Type of Evaluation of learning outcomes

Continuous assessment process, with students carrying out tasks and activities independently with the guidance of their tutor.

1) Attendance at least 80% of the sessions will be mandatory.
2) The assessment of the acquired skills will be carried out by preparing a report and/or practical case.
3) Individual work: exercises and final synthesis.

Form of Participation

Mode of participation (e.g., online, in-person, blended).

Synchronous and asynchronous online teaching
Virtual classroom/Online campus
Edelvives Foundation Online Training Campus Platform
https://campus.fundacionedelvives.org

6. EQAVET Quality Assurance

The quality requirements to develop micro-credentials in collaboration with the university of Zaragoza are detailed in the following document.
https://academico.unizar.es/sites/academico/files/webform/microcredenciales.pdf

The entity must provide, as basic requirement, information of the number of ECTS, qualification framework, report on quality, evaluation, satisfaction survey. Then, the University of Zaragoza is the one in charge of implementing the certification system through the UNIZAR stamp for micro-credentials. For this, they request the course to be aligned with the standard of the European Learning Model v.3 (ELM v.3), launched in April 2023, and promoted by Europass.

This model consists of four different levels:

1) European information model (EQF, Recommendation, diploma supplement)
2) European Learning model (publication of concepts to be used in educational and employment use cases)
3) Application profiles (rules for publishing learning opportunities, accreditations and credentials in Europass)
4) Extensions (National, Regional or sectoral extensions)

Thus, the quality system used in this best practice is highly anchored in European systems and standard proposals, and as such, fully aligned with EQAVET indicator nº1 – Relevance of quality assurance systems for VET providers.

It is also aligned with indicators 6 utilization of acquired skills at the workplace, and indicator nº9 – mechanisms to identify training needs in the labour market, as the course is delivered by an external provider which is actually close to the educational market and thus has a good insight on the needs.

7. Integration and Recognition

The University of Zaragoza issues all its micro-credentials in the standard format accepted by Europass. The microcredential can be inserted into a Europass digital portfolio in the form of an electronic file issued by the institution where the studies were carried out, to accompany the other training, achievements and projects that individuals can present in their Europass library.

If the learner has a Europass account, and provides the university with its unique ID (uid), The University will directly host the microcredential obtain in the student's Europass Library.

The Europass digital credential system is free and secure. It is managed by the European Commission, which has started working with EU Member States and other countries to start the pilot phase of Europass digital credentials.

8. Transferability potential

This best practice is interesting as it shows how a smaller organisation, in this case the Foundation Edelvives, collaborates with the university in order to deliver an accredited training programme, using the infrastructure and standards from the university to deliver the training.

The university of Zaragoza actually promotes this kind of collaboration, and proposes guidelines to entities who wish to deliver Micro-credentials under 2 categories:

- Lifelong learning
- Specific Continuous training

9. Link to the Microcredential or Issuing Institution

Write here your text
Link to Microcredential: https://microcredenciales.unizar.es/microcredencial/189
Link to Issuing institution: https://microcredenciales.unizar.es/

10. Method used to collect the practice

Recommendation from experts. The University of Zaragoza is a pioneer in Spain in the implementation of microcredential systems, which is why we chose this case as a best practice.

BEST PRACTICE 9 (BP9) – AI4GreenSMEs

1. General Information

Practice Title

AI4GreenSMEs - a practical case of ongoing certification

Country/Region

Spain,
Bulgaria,
Cyprus,
Malta,
Greece

Dates of practice implementation

2025

Microcredential Issuing Body

Whole consortium of entities involved in the AI4GreenSMEs project:

- Cámara Oficial de Comercio, Industria, Servicios y Navegación de Valencia
- Chamber of Commerce and Industry Vrasta Sdruzhenie
- Markeut Skills Sociedad Limitada
- Malta Business Foundation
- Epistimi Gia Sena Astiki Mi Kerdoskopiki Etairia
- Strategic Omnia Research and Technology Development LTD
- B&P Emerging Technologies Consultancy Lab LTD

2. Description of the Practice

Summary of the Practice

The AI4Green SME is a European project which main objective is to provide Artificial Intelligence and machine learning training to small companies' (future) managers and decision-makers addressed to promote the transition towards the circular economy. A full training course will be prepared thanks to a prior consultation and the support of expert entities in the field of circular economy, sustainable business, emerging technologies and artificial intelligence, and will be delivered through digital means to a wide number of (future) professionals thanks to chambers' networks. As a result, partners intend to create aAI4Green network thanks to which any small company over Europe can learn and share experiences and improve its environmental impact thanks to innovation.

Practice Objectives

SO1 Define a set of competencies needed by SMEs professional to overcome the identified barriers in the wider adoption of AI. Develop a corresponding training programme. This will be achieved thanks to a research and analyse of competence needs, and the contribution of experts partners and chambers in the development of technical contents in a didactic and easy-understandable way.

SO2 Test and validate a training for SMEs managers and middle managers in charge of influencing companies processes with the AI4GreenSME training programme

SO3 Create collaborative tools, which will engage learners in cross-sector/level collaborations to deepen their knowledge on the topic while networking and developing new opportunities of developing and improving their positive business impact.

SO4 Promote the concepts of data management and circular businesses thanks to general awareness-raising actions on the benefits that those can bring to the businesses.

SO5 Ease the professional reconversion and inclusion of all kinds of professional profiles aimed at becoming future decision-makers in small companies with updated skills, so to also train new workforce to work on these topics and contribute to the general labour market needs.

Operational/Business Transformation Process

In the case of this project, partners are seeking for implementing a microcredential for increasing the value of the course and enhancing the recognition of this informal training proposal.

Implementing a certification system will enhance the uptake of the AI4GreenSMEs course by the SMEs representative. It will enable them to show the competences that they have acquired through this training and add this to their curricula so it can enrich their professional profile, and is visible from eventual employers.

In order to reach this objective, it is important to define, within the AI4GreenSMEs consortium, the way to deliver such certification, and how to give it a strong value that will motivate participation.

Within the context of a non-formal education proposal, it is not planned to pass through formal certification channels, also, the certification should arise from a determined quality and assessment procedures, that will give value to both the course and the knowledge acquired by the learners. AI4GreenSMEs partners intend to develop a microcredential system to support this objective.

3. Micro-credentials

Microcredential Title

AI4GreenSMEs - Artificial Intelligence and Machine-learning Training to Small Companies' Managers Addressed to Promote the Transition Towards the Circular Economy

Learning Outcomes

Module 1: Circular Economy Literacy

Learning outcomes:

1. Explain the foundational principles of the circular economy, distinguishing it from traditional linear economic models.
2. Demonstrate an understanding of systems thinking and life cycle assessment by analyzing how different stages of a product's life impact the overall sustainability of a circular economy.
3. Analyze the role of supply chain and logistics in the circular economy, assessing the applicability of circular practices at each stage of the supply chain.
4. Identify and evaluate various circular design principles and innovative approaches, applying them to create sustainable product and service solutions.
5. Develop strategies for influencing consumer behavior and engaging communities in circular economy practices, implementing small-scale initiatives in households and proposing community-level interventions.
6. Assess global trends, corporate strategies, and financial mechanisms supporting the circular economy, and gain basic insights for pitching a circular economy project or awareness campaign, based on best practices and successful case studies.

Module 2: Artificial Intelligence Literacy

1. Describe how intelligence is understood in the context of AI
2. Explain commonly used terms related to AI
3. Describe different types of AI learning tasks
4. Describe different alternatives concerning AI evaluation
5. Enumerate and outline basic tasks of AI (classification, regression…)
6. Understand what a complex task is and how it is related to basic tasks
7. Describe practical applications of AI

Module 3: Applications of AI in Circular Economy
1. Describe the 9 Rs' of Circular Economy
2. Enumerate possible AI applications across the 9Rs cycle
3. Enumerate possible challenges when strategically integrating AI incircular economy

Module 4: Ethical and Social implications
1. Differentiate the fundamental ethical principles guiding AI development and green practices, focusing on how these principles apply to and enhance the operations of Green SMEs.
2. Assess the social implications of AI technologies and green practices, recognising potential impacts and responsibilities for Green SMEs in promoting positive societal outcomes.
3. Develop strategies to integrate ethical and social considerations into AI deployment, ensuring alignment with green practices while fostering a transition towards a more sustainable, circular economy.

Module 5: Data for AI for Circular Economy
1. Understand the Role of Data in AI-Driven Circular Economy Solutions
2. Identify different data sources that are crucial for driving AI applications in the circular economy context within Green SMEs.
3. Understand data requirements for AI-driven circular economy models needed to develop effective AI models that facilitate circular economy initiatives within Green SMEs.
4. Assess the relevance, quantity, quality and accuracy of data to ensure its effectiveness in supporting AI-driven sustainability practices.
5. Understand how AI technologies can be leveraged within existing circular economy data to improve operations in Green SMEs.
6. Develop strategic approaches to utilise data in crafting AI solutions that advance circular economic principles in Green SMEs.
7. Identify best practices in data management, ensuring ethical data use, privacy, and security while optimising AI applications for the circular economy.

Module 6: AI-driven Product Design and innovation
1. Understand why eco-design is a fundamental part of CE, and how AI is able to improve the process of products, services and businesses design.
2. Gain familiarity with CE and AI tools, technologies used in design, and analyse real-world case studies demonstrating successful implementations of AI in eco-design and innovation across different industries.
3. Develop the ability to collaborate effectively in interdisciplinary teams involving designers, engineers, and data scientists on AI-driven design projects.

Module 7: Circular Business models and Market opportunities
1. Differentiate between classic/ linear business models from circular actions
2. Understand the impact of the business on its environment and integrate additional factors to the business performance evaluation, beyond the economic aspect.
3. Identify key market trends and opportunities related to the growing concern for climate protection and the emergence of AI.

Module 8: Policy and Regulatory Considerations
1. Acquire a general understanding of the policy-making process, institutions in charge, and general political trends concerning environmental and technological matters.
2. Distinguish the mandatory from the recommended (legal and moral obligations, the moral being part of our module 4 on ethics), and be aware of the legal duties of the company while dealing with environmental and AI issues.
3. Be aware of the main legal and policy frameworks, including those that are specific to particular sectors. Anticipate changes in the current regulation thanks to knowledge about ongoing political work.
4. Navigate AI and Environmental Regulations: Acquire practical knowledge on navigating AI and environmental regulations, ensuring compliance while leveraging opportunities for innovation.
5. Implement Ethical Practices: Understand the ethical implications of AI technology and how to integrate ethical considerations into business practices.

Module 9: Buidling yout AI4CE Roadmap

1. Understand the role of AI in the circular business model: Participants will be able to explain how AI can be used to optimise their transition to a circular business model.
2. Identify first steps in creating a circular economy model: Participants will be able to identify and prioritise the first steps required to transition their business towards a circular economy model.
3. Develop a customised roadmap for business: Participants will be able to translate the knowledge gained from the training into a customised roadmap for their specific business.
4. Understand the role of data analysis in forming an AI4CE roadmap: Participants will understand the importance of analysing data related to resource use, waste generation, and customer preferences for building an AI4CE roadmap.
5. Understand the practical application of an AI4CE roadmap: Participants will develop the ability to translate their roadmap into concrete actions and identify practical ways to implement circular practices within their business.
6. Identify challenges in implementing an AI4CE roadmap: Participants will be able to identify potential challenges associated with implementing an AI4CE roadmap and suggest strategies to overcome these challenges.

Module 10: Evaluating AI4Green Projects

1. Identify key metrics for evaluating the success of AI4GreenProjects.
2. Apply evaluation frameworks to assess the environmental and social impact of AI-powered solutions.
3. Make informed decisions regarding funding or implementing AI4GreenProjects.

Target group

4. Workload and EQF Level

Workload

14 hours

EQF Level of Learning Experience

Level 4-5

5. Evaluation and Participation

Type of Evaluation of learning outcomes

2 different assessments are planned for the AI4Green SMEs course, a prior assessment and a final assessment.

The micro-credentials will be delivered on completion of the second assessment. This one is made of 10 multiple-answers questions. The learner should answer correctly to at least 70% of the questions to be awarded with the MC.

Form of Participation

Mode of participation (e.g., online, in-person, blended).

The course will be delivered online, and the learner will be able to complete the different lesson and collect the different micro-credentials individually. The platform will include elements of participation and peer-learning, so learners can connect and discuss with other learners, and exchange experience. However, this is a voluntary process and will not enter in the assessment to the course.

6. EQAVET Quality Assurance

The quality assurance used to underpin the microcredential is the one implemented within the project to validate the course content. This is made of several actions:

1. Co-creation method used during the development of the course structure
2. Peer-review of the structure at the level of each lesson (by at least 1 partner)
3. Peer-review of the lesson content (by at least 2 different partners)
4. Quality satisfaction surveys on the course filled by: 20 trainers (4 trainers per country)
- Project staff
- 140 learners

This quality assurance strategy ensure the fulfilment of EQAVET indicators nº3 – participation rate in VET programmes, but also indicator 9 . mechanism to identify training needs in the labour market (thanks to the co-creation procedure).

The prevalence of vulnerable groups (EQAVET indicator nº8) is also addressed, as this project has an indicator for participation of people in vulnerable situations. (20%)

The course will be reviewed after those different actions and will be improved taking into consideration eventual gaps/errors observed. Only then it will be considered as validated.

7. Integration and Recognition

Once a learner has achieved the 14 MC associated to the AI4Green SMEs course, he/she will receive a certificate of completion. Also, the partnership intends to use a Europass supplement associated to the certificate delivered to present the competences associated with the different micro-credentials developed in a way that is understandable in all European countries.

8. Transferability potential

We found this case interesting because it perfectly suits the framework of our investigation, showing the case of a short course proposed by a consortium of entities that are mostly working in VET context and without the participation of universities. This case is an ongoing practice, not fully developed yet, and also shows the complexity of the implementation of such systems, as partners are currently struggling with the implementation of the digital aspect of the badge and metadata delivery.

9. Link to the Microcredential or Issuing Institution

Write here your text
Link to Microcredential: https://ai4greensme.eu/outcomes/ (under construction – ongoing work)
Link to Issuing institution: https://ai4greensme.eu/

10. Method used to collect the practice

MEUS is a partner in this project, in charge of the development of the certification system based on microcredential and Europass. This is why we have firsthand information on this specific case.

BEST PRACTICES KAINOTOMIA

BEST PRACTICE 10 (BP10) – GIS/GIS

1. General Information

Practice Title

Geographic Information Systems (GIS/GIS) Applications in Environmental and Water Resources Management

Country/Region

Greece/Thessaly

Dates of practice implementation

Twice or thrice per year
Start date of the latest implementation period: October 2024

Microcredential Issuing Body

Training & Lifelong Learning Centre of the University of Thessaly

2. Description of the Practice

Summary of the Practice

This training program is designed to promote and develop its participants' skills related to the use of the evolving digital tools of Geographic Information Systems (GIS). It is an innovative distance learning training program, with a duration of 3 months (80 hours). This training program is addressed to engineers, environmentalists, geologists, foresters, fishers, HEI students, and graduates of related disciplines, both nationals and foreigners, as well as secondary school graduates with relevant work experience.

Practice Objectives

The main objective of the training program is to promote and improve skills in the use of the evolving digital tools of Geographic Information Systems (GIS). The combination of basic theoretical knowledge about their operational technology, along with practical training in the use of specialized software in various applications will be another main objective, so that its beneficiaries will be able to design, implement, and apply integrated solutions regarding information data in a geographical area in terms of the rational environmental management and water resources sustainability.

Operational/Business Transformation Process

In general, the Training & Lifelong Learning Centre of the University of Thessaly (UTH) has set a specific framework, detailing its academic programs, application processes, scholarships, fees, discounts, and microcredential integration. To introduce micro-credentials, in particular, UTH focuses on accessible training to address workforce skill needs, emphasizing flexible online platforms. Key phases include program design, student enrollment, and credential issuance. Resources include a dedicated online portal, guidance from academic supervisors per each training

program, and financial policies that aim to support participants of diverse economic and social backgrounds, ensuring the effectiveness of micro-credentials' implementation for lifelong learning.

For this practice, the training institution has divided the content into three specific units, as follows:
Unit 1: Introduction to Geographic Information Systems
- Basic principles of GIS, Applications of GIS in various scientific fields, and Introduction to ArcGIS Desktop (ArcMap, ArcCatalog, ArcScene, ArcGlobe)
- Databases - Usability, creation, and management
- Vector and raster files
- Coordinate systems, Geographic Systems, Projection Systems, and Georeferencing of maps
- Basic tools for designing and digitization.

Unit 2: Applications of Geographic Information Systems in Environmental and Water Resources Management
- Introduction - Usefulness of GIS in environmental and water resources management, Application cases
- Applications of GIS to crop water needs
- Models of Geospatial Integration and Distribution of Water Parameters from Monitoring Data
- Open-access databases available, Import and use of data in available GIS software
- "3D Analyst" toolbox - Basic use & examples
- Soil modeling by using GIS software
- GIS applications in hydrology, Defining key parameters at the catchment level
- Hydrological modeling and Geospatial software extensions
- Introduction to hydraulic modeling using GIS – Case studies
- Geospatial GIS software extensions to hydraulic modeling - Case studies
- Use of integrated GIS toolkits
- Flood hazard maps using GIS.

Unit 3 Creation of a Thematic Map
- Introduction - The concept of the map, Categories and use, and Thematic Maps
- Basic elements of thematic maps
- Creation of thematic maps
- Preparation for printing and/or exporting.

The training content and additional tools and resources are offered to the participants in various forms:
- Digital notes in an e-book format for all units
- Academic papers (published in journals or conference proceedings) related to the training topic
- Online resources for Geographic Information Systems and their application
- Video presentations
- Various presentation files
- Free training version of a commercial software (ArcGIS) for one (1) year or semester

Upon completion of each unit, participants will have to successfully complete and submit online the corresponding tests/quizzes and/or small assignments, following a timetable predefined by their trainers.
When the participants achieve a grade of more than or equal to 50% in all their assessment tests/tasks, they are awarded a Training Certificate, i.e., the microcredential.

3. Micro-credentials

Microcredential Title

Training Certificate for Geographic Information Systems (GIS/GIS) Applications in Environmental and Water Resources Management

Learning Outcomes

Upon completion of this training program, trainees will be able to:
- acquire knowledge of basic concepts related to Geographic Information Systems (GIS)
- develop the basic skills required to efficiently operate the GIS software
- edit and modify mosaic and vector files

- use basic GIS tools related to handling environmental risks to water resources
- address any possible difficulties that may arise when implementing a relevant project
- acquire the knowledge needed for optimal data preparation, the creation of layouts and maps, etc.

Target group

The target groups of this practice are the following:

- Engineers of all specialties
- Agriculturists, Ichthyologists
- Foresters
- Environmentalists
- Geologists
- Graduates of domestic and foreign universities and technical institutes of all the above specialties and related specialties
- Students of domestic and foreign higher education institutions of all the above specialties and related specialties
- Secondary education graduates with relevant work experience in the subject.

4. Workload and EQF Level

Workload

80 hours within a period of 3 months, scheduled for 1 day per week during afternoons
8 ECVET credits

EQF Level of Learning Experience

N/A

5. Evaluation and Participation

Type of Evaluation of learning outcomes

Online tests/quizzes and/or small assignments after the completion of each unit
Need of 50% success rate in all tests/quizzes/assigned to obtain the Training Certificate

Form of Participation

Mode of participation (e.g., online, in-person, blended).

Synchronous and asynchronous online participation

6. EQAVET Quality Assurance

The Training & Lifelong Learning Centre of the University of Thessaly has been awarded ISO 9001:2015 certification and is assessed by the "Quality Assurance Unit" (QA Unit) of the University of Thessaly, in accordance with the provisions of paragraph 12 of article 48 of Law No. 4485/2017, as it applies to all Greek Undergraduate and Postgraduate Programs of Studies. The external evaluation and certification of the quality of educational / training programs of Training & Lifelong Learning Centre of the University of Thessaly, as for the Undergraduate and Postgraduate Programs of Studies of the University, is carried out by the "National Authority for Higher Education" of Greece (Εθνική Αρχή Ανώτατης Εκπαίδευσης - ΕΘ.Α.Α.Ε.), in accordance with the provisions of sub-clause bb, case b, case d, paragraph 1 of Article 2 of Law. 4653/2020.
No reference to the EQAVET quality assurance system was mentioned, however, a linkage with specific EQAVET indicators could be reasonable for this practice.
In more detail, the practice could be relevant to:

- *Indicator 3: Participation rates in VET programs*

This practice targets a broad audience, including engineers, environmentalists, and students, which indicates its alignment with increasing participation rates in VET, particularly for skill enhancement in specialized fields like GIS.

- *Indicator 6: Utilization of acquired skills at the workplace*

By providing hands-on training in GIS tools and applications, this practice ensures that participants can apply these skills in their work environments, particularly in environmental and water resource management.

- *Indicator 9: Mechanisms to identify training needs in the labour market*

Participant assessments through quizzes and assignments serve as a feedback loop for both learners and trainers to evaluate and improve the program.

7. Integration and Recognition

The "Training Certificate for Geographic Information Systems (GIS) Applications in Environmental and Water Resources Management" can be integrated into other institutions and acknowledged by employers in multiple ways. At first, as the practice is aligned with the European Credit System for Vocational Education and Training (ECVET), this makes it compatible with qualifications at the European level, allowing for easier recognition and transfer of its 8 ECVET credits. This credit allocation enables participants to include the credential as part of continuing education requirements or towards a formal qualification in higher education institutions.

As far as for the employers, this microcredential provides a clear indication that its holder has developed specialized skills in GIS software and environmental applications, which are in demand across various sectors, including engineering, environmental consultancy, and urban planning. The structured training on practical GIS applications points out that the recipient of micro-credentials has both theoretical knowledge and hands-on experience with the use of tools such as ArcGIS, which many employers in the aforementioned sectors seek for their businesses. Additionally, the lifelong learning focus of this practice aligns with workforce upskilling needs, and the inclusion of practical projects and assessments further assures potential employers of the competences that the microcredential's holder has. To facilitate broader recognition, partnerships between the University of Thessaly and industry stakeholders could promote endorsement of this microcredential, thus making it a credible, desirable qualification for roles requiring GIS expertise.

8. Transferability potential

This training program could be adapted to other regions or institutions by tailoring its content to local environmental concerns, software availability, and specific language preferences. For example, integrating country-specific case studies on water management and environmental challenges would increase its overall relevance. Additionally, training institutions could use open-source GIS software, like QGIS, if licensing costs for ArcGIS are prohibitive. The program is offered in a flexible online format which makes it ideal for transferability, allowing training institutions to implement the course remotely, adjust the duration or intensity to fit other learning schedules, and offer local versions of assessments and learning resources. Moreover, its specialized topic is suited for addressing the training needs of specific occupational groups within the context of VET training.

This practice's transferability could be supported by several factors, including its modular structure, accessible digital resources, and flexible online learning options. Some key enabling conditions considered include the availability of trainers with academic backgrounds and GIS expertise, access to suitable software, and a digital infrastructure suitable to support online learning and assessments. As a result, training institutions with established e-learning platforms will find it easier to make adaptations to the course. Additionally, as the program uses internationally recognized software and GIS concepts, it facilitates its application across varying environmental and geographic contexts, making it a viable option for diverse educational and workforce development goals.

9. Link to the Microcredential or Issuing Institution

Link to Microcredential: https://learning.uth.gr/gis-2/
Link to Issuing institution: https://learning.uth.gr/

10. Method used to collect the practice

Desk research, direct contact with UTH staff responsible for the practice, and alumni's recommendations.

BEST PRACTICE 11 (BP11) - BWS

1. General Information

Practice Title

Business Writing Skills

Country/Region

Greece

Dates of practice implementation

Implemented every year at least once
Start date of the next implementation period: February 10, 2025

Microcredential Issuing Body

Center for Continuing Education and Lifelong Learning - National and Kapodistrian University of Athens

2. Description of the Practice

Summary of the Practice

This practice is designed to promote essential principles of effective written communication within business workplaces, which has become a valuable skill across all employment sectors and levels. The program has a duration of 1 month and its target groups are business executives, higher education students, those looking to enhance their communication skills, and managerial professionals who aim to improve communication with colleagues.

A summary of the practice for any interest parts is available on YouTube:
https://youtu.be/wguBjIQsP_s?feature=shared

Practice Objectives

This practice objective is to highlight the basic principles of effective written communication in workplaces that will allow its trainees to learn about the basic techniques of good written communication in order to effectively and clearly communicate any messages required by their professional roles and duties. Participants will acquire knowledge on writing proposals, reports, e-mails, newsletters, and letters properly.

Operational/Business Transformation Process

The Executive Education programs offered by the Center for Lifelong Learning at the National and Kapodistrian University of Athens cover topics relevant to business professionals, providing necessary skills and applied knowledge in areas such as business administration, human resources, finance, and accounting. These programs are available to individuals at all educational levels looking to gain or upgrade skills and to organizations investing in employee development. Training is offered through various formats: online asynchronous, synchronous, blended, and in-person sessions. Each program includes comprehensive details on objectives, target audience, learning outcomes, modules, credits, fees, certification, and start dates. The content is divided into modules, each including clear goals, expected outcomes, keywords, introductory material, core content, examples, case studies, self-assessment exercises, multimedia, slides, and summaries.

For this practice, the training institution has divided the content into four modules, with a duration of 1 week per module, as follows:

1. Introduction to written communication in the workplace

- The stages of effective written communication
- How to make written communication in the workplace more effective
- How to check and improve the final text
2. Writing e-mails, memos, letters, and proposals
- E-mails and memos
- Business letters
- Business proposals (proposals)
3. Drafting of written messages by occasion
- Drafting of negative written messages
- Drafting of written messages in the context of complaints/requests
- Drafting of written replies to complaints/requests
4. The drafting of reference reports - reports
- Key elements of reports
- Drafting of informal and formal reports
- Drafting minutes of meetings.

During the practice implementation, participants:
- are continuously supported by their trainers/tutors
- have access to specific applied educational material
- are offered various relevant examples and case studies
- can watch training materials by their trainers in video format asynchronously
- practice their knowledge through questions and self-assessment exercises
- assess their knowledge acquired through multiple-choice questions after each module
- take part in livestreamed meetings with their trainers whenever it is needed.

Upon successful completion of this practice, participants are awarded a Training Certificate of the National and Kapodistrian University of Athens, i.e., the microcredential.

3. Micro-credentials

Microcredential Title

Training Certificate of the National and Kapodistrian University of Athens

Learning Outcomes

Upon completion of this training program, indicatively participants will be able to:
- recognize the characteristics of effective written communication
- identify distinct types of reporting essays
- prepare meeting minutes and reports, selecting which data is essential to be recorded
- differentiate the way they communicate written messages according to the element used (e.g., departmental memo, letter, e-mail, report card)
- apply effective communication elements when drafting letters, e-mails, proposals, offers, proposals, etc.
- review a text and improve it in order to convey the message more effectively.
- promote communication, using the written word, on topics related to their business.

Target group

The target groups of this practice are the following:
- business and organization executives
- higher education students
- managers aiming for more effective communication with their partners.
- people who wish to develop their scientific background and their abilities in communication skills.

4. Workload and EQF Level

Workload

1 month – 80 hours
3.2 ECVET credits

EQF Level of Learning Experience

N/A

5. Evaluation and Participation

Type of Evaluation of learning outcomes

Online multiple-choice questions after each module – successful completion lead to issuing the Certificate

Form of Participation

Mode of participation (e.g., online, in-person, blended).

Asynchronous online participation

6. EQAVET Quality Assurance

In general, the Center for Continuing Education and Lifelong Learning (CCE) has a Quality Assurance Policy in line both with its strategy as well as the quality policy of the National and Kapodistrian University of Athens, aiming to offer high-standard, non-formal training programs that address current labor market needs and develop individuals' professional and cultural competences and responsibility. CCE's quality assurance is applied to all its activities, emphasizing on the three main educational aspects; namely, inputs (curricula, educational material, trainers), processes (selection of trainers, teaching methods, monitoring of program implementation, evaluation), and outputs (the results of the learning process, i.e., the knowledge, skills, and competencies of the learners). This policy includes operational principles, standards, and procedures for the design, approval, implementation, monitoring, and review of quality, aimed at the continuous improvement of the training programs and services provided, as well as public accountability.
The quality of micro-credentials is ensured through a combination of internal and external evaluations, participant feedback, and adherence to rigorous learning standards. Continuous monitoring, staff training, and regular updates help maintain high standards, while participant assessments and provision of results' certification ensure consistency and add value in the credentialing process. Quality is further supported by an internal framework overseen by the Quality Assurance Unit (MODIP). Additionally, quality monitoring results are shared with the public through annual relevant reports.
Since May 2018, the e-learning program of CCE has been certified for Quality System Management by DQS, a certification body, according to the renewed standard DIN EN ISO 9001:2015 (Certificate Code: 506901 QM15).It also has a Quality Management System Certificate from the International Certification Network (IQNET) which provides an international passport to global recognition and access to markets (IQNET ISO 9001:2015 Certificate). Both these certifications meet in full the requirements of the European Quality Assurance Reference Framework (EQAVET).
Additionally, the Elearning Programme of CCE is certified by the DQS for the ISO 21001:2018 standard "Management System for Educational Organisations" (Certificate Code: 506901 MSEO_21001), which is a new international standard that aims for quality improvement of non-formal education and training services such as VET, lifelong learning, in-company seminars (both in-house or external).
No reference to the EQAVET quality assurance system was mentioned, however, a linkage with specific EQAVET indicators could be reasonable for this practice.
In more detail, the practice could be relevant to:

- *Indicator 1: Relevance of quality assurance systems for VET providers*

The integration of ISO certifications (ISO 9001:2015 and ISO 21001:2018) reflects a robust quality assurance mechanism, ensuring that the program meets labor market and participant needs.

- *Indicator 2: Investment in training of teachers and trainers*

This practice's design is focused on the use of well-trained trainers to deliver high-quality content, including live-streaming sessions and asynchronous support.

- *Indicator 5: Placement rate of graduates from VET programmes*

By addressing practical business communication skills, the program directly enhances the employability opportunities of the participants, making them more competitive in the labor market.

7. Integration and Recognition

This microcredential can be integrated and recognized by other institutions or employers. The issuing organization is a reputable educational institution, thus providing verifiable proof of a participant's competency in business writing, which is a highly valued skill for many industries. This recognition is further facilitated by its detailed structure and the alignment with standardized learning outcomes. As specific skills and competences are clearly defined from the beginning, the microcredential offers a transparent basis for recognition by employers seeking employees with proven communication efficiency. Additionally, its alignment with the ECTS framework further supports its recognition to a wider level within the European Union, despite the lack of an assigned EQF level. The practice's format is well-aligned with ongoing VET initiatives having the potential to be easily integrated into various employee development programs, allowing individuals to enhance their career paths and improve their employability opportunities in business sectors that prioritize high-quality standards of written communication. Moreover, both institutions and employers may further acknowledge the contribution of this microcredential in their professional development frameworks, especially if written communication and business writing are considered critical as job requirements.

8. Transferability potential

This practice is adaptable to other training or business contexts by tailoring its content to suit the specific communication needs of different target audiences. For example, organizations in different regions could customize the writing examples and case studies to reflect local workplace communication norms and business practices. Additionally, the modular structure of the practice, covering key areas of business communication (emails, memos, reports), allows easy integration into various curricula or development programs for employees. Its asynchronous participation format can further increase learning flexibility and accessibility for diverse audiences. Ensuring quality through internal evaluation, feedback mechanisms, and adaptation to local labor market needs would support effective program implementation in new contexts.

This practice has transferability potential due to its comprehensive and flexible design, which addresses commonly valuable skills like business writing and clear communication. Key factors that enable effective transfer include the modular structure, which allows flexible and segmented learning, and the use of multiple content delivery modes, thus making the practice adaptable to both in-person and remote formats. Further, the inclusion of a quality assurance framework ensures the program's relevance and credibility, which is essential for institutional buy-in and recognition. Collaboration with local or national educational bodies to align with regional qualification frameworks or standards, as well as adapting the evaluation process to suit the specific audience, could further support its successful implementation across different contexts.

9. Link to the Microcredential or Issuing Institution

Link to Microcredential:
https://executive-education.cce.uoa.gr/programmata/apotelesmatiki-grapti-epikoinonia-stis-epixeiriseis/
Link to Issuing institution: https://cce.uoa.gr/

10. Method used to collect the practice

Desk research, direct contact with UOA staff responsible for the practice, alumni's recommendations, and personal experience.

BEST PRACTICE 12 (BP12) – Blockchain Technology and Applications in the Supply Chain Industry

1. General Information

Practice Title

Blockchain Technology and Applications in the Supply Chain Industry

Country/Region

Greece

Dates of practice implementation

Implemented every year at least once
Start date of the latest implementation period: November 25, 2024

Microcredential Issuing Body

Centre for Training & Lifelong Learning of the Hellenic Open University

2. Description of the Practice

Summary of the Practice

This training program is designed to explore blockchain technology's potential in addressing challenges in the supply chain sector, emphasizing EU policies and initiatives. Participants will gain a fundamental understanding of distributed systems, consensus mechanisms, and smart contracts while analyzing blockchain's role in improving data sharing, traceability, security, and interoperability. In its curriculum, the benefits, limitations, and regulatory framework for blockchain applications in the European supply chain and logistics industries were also examined. The program is targeted at supply chain managers, university students with relevance to this field, IT professionals, policymakers, entrepreneurs, and academics, and aims to equip learners with the skills to implement blockchain solutions, foster innovation, and enhance collaboration within the logistics sector.

Practice Objectives

The main objectives of the training program are:

- to highlight the potential of blockchain-based applications in the supply chain sector, based on the policies and initiatives of the European Union
- to explain the key concepts of technology, such as distributed systems, consensus mechanisms, and smart contracts
- to highlight the challenges in the supply chain and logistics sector that can be addressed by blockchain technology, such as inefficiencies in data sharing and management as well as individual security and privacy issues
- to perform an analysis of the advantages and limitations of using blockchain technology in applications such as traceability processes in the supply chain
- to provide a comprehensive overview of the place and role of blockchain technology in the European supply chain and logistics space.

Operational/Business Transformation Process

The program's design follows a methodology that supports open and distance e-learning. Training is conducted through a modern remote learning system. The distribution of educational and support material is done gradually and on a weekly basis. The educational material is available online, in digital format, can be stored locally, and is also easily printable for those who prefer printed material.

For this practice, the training institution has divided the content into seven modules, called thematic modules, as follows:

Thematic Module 1: Introduction to blockchain technology (architecture, individual technical features, cryptographic functions, security, and privacy issues)
Duration: 33 hours
ECTS credits: 1.32
Thematic Module 2: Introduction to smart contracts and their related applications in the supply chain
Duration: 5 hours
ECTS credits: 0.44
Thematic Module 3: Legal and regulatory framework for blockchain in the European Union
Duration: 5 hours
ECTS credits: 0.44
Thematic Module 4: Blockchain Applications in the Supply Chain Sector
Duration: 10 hours
ECTS credits: 0.88
Thematic Module 5: Applications of Smart Contracts in the Supply Chain industry and presentation of the open-source software Solidity (Ethereum blockchain)
Duration: 10 hours
ECTS credits: 0.88
Thematic Module 6: Challenges regarding the use of blockchain technology in the Supply Chain industry
Duration: 5 hours
ECTS credits: 0.44
Thematic Module 7: Final assignment
Duration: 15 hours
ECTS credits: 0.6

Upon successful completion of the training program, a "Training Certificate", i.e., the microcredential, as well as an "Annex to the Training Certificate" will be issued, which includes additional information such as a) the hourly duration of the training program, b) the training method, c) the ECTS credits and d) the titles of the thematic or thematic modules. The certificate is signed by the program's Scientific Director, the President of the Center for Training and Lifelong learning, and is available to the participants after the successful completion of the program. In case of unsuccessful completion, a simple "Certificate of Attendance" is issued for the failed participants.

3. Micro-credentials

Microcredential Title

Training Certificate for Blockchain Technology and Applications in the Supply Chain Industry

Learning Outcomes

Upon completion of this training program, participants will be able to:

- elaborate on key concepts of blockchain technology, including distributed ledger systems, consensus mechanisms, and smart contracts
- describe current challenges and lack of efficiency in supply chain and logistics management that could be addressed using blockchain technology
- analyze the potential benefits and limitations of using blockchain in various supply chain applications, such as secure data sharing, supply chain traceability processes, and interoperability
- delve into the broader institutional and regulatory situation that is related to innovative technologies in the European Union, such as blockchain
- apply technical knowledge to create blockchain-based solutions in the supply chain and logistics sector
- follow a logical, intuitive, and creative approach to problem-solving in the supply chain and logistics sector using innovative technologies such as blockchain
- adapt to new situations and demonstrate a spirit of collaboration and communication within teams.

Target groups

The target groups of this practice are the following:

- logistics managers and professionals from the broader supply chain field
- higher education students
- IT professionals interested in blockchain technology and blockchain-related applications
- Policymakers and regulators
- Entrepreneurs in the logistics sector
- Academics and researchers in the supply chain and blockchain technology field
- Other professionals.

4. Workload and EQF Level

Workload

125 hours within a period of 2 months
5 ECTS credits

EQF Level of Learning Experience

N/A

5. Evaluation and Participation

Type of Evaluation of learning outcomes

- active participation in the presentations of the thematic modules
- willingness of the participants to undertake assignments
- resolution of research issues
- overall interaction with the trainers
- final assignment

Form of Participation

Mode of participation (e.g., online, in-person, blended).

online participation

6. EQAVET Quality Assurance

For the evaluation of the training program provision in terms of educational work as well as administrative and technical support, upon its completion, each participant will be asked to complete a single questionnaire, which includes specific axes and evaluation indicators, which is processed and followed up in line with the Internal Operating Regulations of the Center for Training and Lifelong learning.
Additionally, the Center for Training & Lifelong Learning of the Hellenic Open University is subject to an annual internal evaluation carried out by internal quality assurance units and the University's Office of Strategic Planning, in accordance with the written procedures of the NQF Quality Manual and cooperates with the Center's Council for their implementation. The procedures include the timing, participants, data to be reviewed, and expected results. The purpose of the internal evaluation is to formulate final judgments and conclusions on the compliance of the Center with this Quality Standard and to define the necessary corrective, preventive, or improvement interventions.
No reference to the EQAVET quality assurance system was mentioned, however, a linkage with specific EQAVET indicators could be reasonable for this practice.
In more detail, the practice could be relevant to:

- *Indicator 6: Utilisation of acquired skills at the workplace*

The focus on blockchain applications in supply chain processes ensures that participants are equipped with industry-relevant skills that can be directly applied in professional settings.

- *Indicator 8: Prevalence of vulnerable groups*

By offering flexible access and addressing modern supply chain challenges, this practice is addressed to a wide audience, potentially including disadvantaged groups, enhancing inclusion.

- *Indicator 10: Schemes used to promote better access to VET and provide guidance to (potential) VET learners*

The online learning format and modular design make this practice accessible to diverse learners, including professionals and students, across different regions.

7. Integration and Recognition

The issued microcredential is designed to have a high transferability and recognition potential by both academic institutions and employers due to its clear structure, alignment with EU policies, and focus on industry-relevant skills, with its focus on the supply chain. It is awarded with ECTS credits, which are widely accepted across Europe to quantify learning achievements and outcomes. The program includes a certificate annex providing detailed information about the training duration, thematic modules, methodology, and ECTS credits, which I an element that ensures transparency and credibility. Moreover, by addressing key challenges in the supply chain sector—such as inefficiencies in data sharing, traceability, and security—in relation to blockchain technology, this microcredential equips its holders with practical skills and theoretical knowledge that can be applied directly to real-world scenarios. The program emphasizes EU regulatory frameworks, innovation, and collaborative problem-solving which further aligns it with employers' and institutions' needs related to looking for professionals skilled in implementing innovative blockchain solutions. This comprehensive approach enhances its integration into academic pathways, professional development plans, or career advancement opportunities in logistics, IT, and related fields.

8. Transferability potential

This practice is both adaptable and transferable to other contexts or training institutions by aligning its curriculum elements to supply chain needs identified at local or regional levels while maintaining its core focus on blockchain technology. Its structure allows flexible content delivery, so training institutions could either adopt the entire program or just those specific thematic modules which relevant to their context. For example, the thematic module "Legal and Regulatory Framework" could be adjusted to align with the policies of different countries or even regions. Similarly, the program's online format ensures its wide accessibility, making it suitable for those training institutions that have limited physical infrastructure. Additionally, the development of localized case studies and real-world applications could further enhance its relevance in various contexts. Finally, training institutions could collaborate with industry experts and policymakers to contextualize learning outcomes to specific supply chain challenges.

There are several conditions and factors that could facilitate the transferability of this practice. Firstly, the open and distance e-learning methodology followed supports scalability and access, as it does not require significant infrastructure. Secondly, the inclusion of widely used open-source tools like Solidity ensures universal applicability across different regions. Furthermore, collaboration efforts with stakeholders such as supply chain professionals, IT experts, and academics can enhance the practice's learning outcomes' adoption and relevance. Additionally, its clear structure, evaluation criteria, and certification process offer other institutions the opportunity to replicate it in their practices effectively. Finally, further aligning the practice with international quality assurance frameworks, such as EQAVET, could ensure standardized delivery and recognition among European nations, thus enhancing its transferability.

9. Link to the Microcredential or Issuing Institution

Link to Microcredential: https://kedivim.eap.gr/texnologia-blockchain-efodiastiki-alysida-1os-kyklos/
Link to Issuing institution: https://kedivim.eap.gr/

10. Method used to collect the practice

Desk research and direct contact with the staff responsible for the practice of the Hellenic Open University.

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MiCrocVET

THE BEST PRACTICE GUIDELINES ON THE USE OF MICROCREDENTIALS

Partner Coordinator
OpenCom (IT)

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