Empowering VET practitioners to create effective and engaging digital micro-learning experiences through Instructional Design

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GUIDELINES FOR VALIDATION, CERTIFICATION AND ACCREDITATION

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INTRODUCTION

The ID Teachers project was developed in response to the significant changes currently affecting vocational education and training (VET) systems across Europe. In recent years, digital transformation, rapid technological development, and evolving labour market needs have reshaped the way education and training are designed and delivered. VET institutions are increasingly expected to integrate digital tools, flexible learning formats, and innovative pedagogical approaches into their programmes.

Rapid technological advancement, the digitalisation of workplaces, evolving labour market requirements, and changing learner expectations have collectively created an urgent need for **innovative, flexible, and competence-based educational models**. Within this context, VET practitioners are increasingly expected not only to deliver content, but to design meaningful, engaging, and digitally enhanced learning experiences that respond to diverse learner profiles and continuously emerging skills demands.

In this context, **micro-learning** has emerged as a particularly relevant pedagogical approach. By delivering short, focused and modular learning units, micro-learning enables flexible access, personalised progression and targeted competence development. When combined with learner-centred and edutainment methodologies, micro-learning enhances engagement, motivation and knowledge retention. However, the effective implementation of micro-learning requires structured **instructional design competences** that ensure clarity of objectives, coherence of content, meaningful interaction and reliable assessment mechanisms.

Micro-learning has emerged as a strategic pedagogical response to these developments. ***Characterised by short, targeted, modular learning units that can be delivered digitally and accessed flexibly, micro-learning enables just-in-time skill acquisition, supports personalised learning pathways, and enhances learner autonomy.***

It is particularly suited to vocational contexts, where learners must balance theoretical knowledge acquisition with practical application and workplace integration. However, while micro-learning methodologies are increasingly adopted at institutional level, their design and implementation often rely on informal competences and fragmented professional development initiatives.

Instructional Design (ID), as a structured and research-based discipline, provides the conceptual and methodological framework necessary to ensure that micro-learning experiences are pedagogically sound, learner-centred, inclusive, and aligned with clearly defined learning outcomes. Effective learner-centred instructional design integrates needs analysis, content structuring, digital tool selection, interactive methodologies, assessment strategies, and continuous improvement cycles.

The ID Teachers project seeks to address current structural gap by equipping VET practitioners with clearly defined competences and practical tools to create effective digital learner-centred micro-learning experiences.

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ID TEACHERS' Core outputs

- The development of a European Competence Matrix aligned with European Qualifications Framework (EQF) descriptors;
- The design and implementation of a comprehensive Training Programme focused on learner-centred instructional design for micro-learning;
- The establishment of a Virtual Campus and Educational Web Application to support the applied development of micro-learning modules;
- The implementation of trial phases in authentic educational settings across partner countries;

- The elaboration of guidelines for validation, certification and accreditation of learner-centred instructional design competences.

Through these outputs, the project contributes to strengthening the professional profile of VET practitioners in the digital era. Along with all these points, sustainable impact requires more than pedagogical innovation; it requires systemic integration.

The development of formalised certification pathways for micro-learning instructional design competences represents an important strategic opportunity to further strengthen the professionalisation, comparability and portability of these competences across European VET systems. By establishing clearly defined standards, learning outcomes and validation mechanisms, such pathways would contribute to enhancing transparency and coherence within national qualification frameworks while supporting alignment with the European Qualifications Framework.

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This Reference Document has therefore been developed as a strategic and policy-oriented instrument intended to facilitate the maturation of certification and accreditation procedures pertaining to learner-centred instructional design for micro-learning. It builds upon the evidence generated through comparative national analyses and project piloting phases, situating the ID Teachers initiative within the broader European policy landscape related to digital education, lifelong learning, and micro-credential development.

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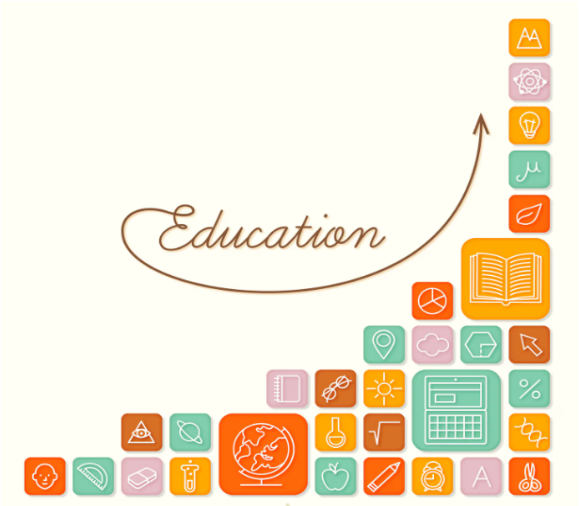
Primary objectives

- Examine existing European and national frameworks governing validation, certification and accreditation in vocational education and training;
- Identify structural and regulatory gaps concerning the formal recognition of micro-learning instructional design competences;
- Propose structured and modular certification pathways aligned with EQF and national qualification frameworks;
- Recommend quality assurance mechanisms to ensure transparency, reliability, and comparability of learning outcomes;
- Support policymakers, accreditation bodies, VET providers, social partners and intermediary organisations in strengthening governance mechanisms for digital pedagogical competences.

In this context, the Reference Document is aligned with broader European priorities related to transparency of qualifications, the promotion of micro-credentials, the development of digital competences and the continuous improvement of quality assurance mechanisms in vocational education and training. It seeks to encourage reflection on how emerging pedagogical innovations can be more coherently linked with established regulatory frameworks, with a view to supporting comparability, professional mobility and long-term sustainability across European VET systems. The document invites consideration of more structured approaches to the recognition of micro-learning instructional design competences.

Review of the Comparative Analysis Reports



ID TEACHERS Comparative Analysis offers an overall examination of national validation systems, certification frameworks, digital transition strategies and practical implementations related to learner-centred instructional design for micro-learning across six partner countries: **Italy, Spain, Austria, Portugal, Ireland and Türkiye.**

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The outputs show how instructional design competences particularly those connected to digital, modular and learner-centred micro-learning approaches are positioned within national qualification architectures. It assesses the level of alignment between national systems and European frameworks such as the European Qualifications Framework (EQF), EQAVET and DigCompEdu, and identifies existing gaps between pedagogical innovation and formal recognition mechanisms.

This review synthesises the main findings and highlights cross-country patterns that directly inform the strategic positioning of the ID Teachers project.

Structural Alignment with European Frameworks

One of the most significant findings of the comparative analysis is the strong structural alignment of all partner countries with European qualification and quality assurance frameworks.

All six countries operate National Qualifications Frameworks (NQFs) aligned with the European Qualifications Framework (EQF). These frameworks provide a transparent structure for describing learning outcomes, validating competences and ensuring comparability across education systems.

Quality assurance processes are also embedded at national level, often referencing European instruments such as EQAVET or national equivalents aligned with EU standards. This alignment creates favourable conditions for integrating new competence domains—such as learner-centred instructional design for micro-learning—into existing systems. The necessary governance structures, regulatory bodies and accreditation mechanisms are already in place. However, while the structural foundation is strong, specific recognition of micro-learning instructional design remains limited.

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Certification and Validation of Instructional Design Competences

Across the analysed countries, instructional design competences are generally recognised within broader educational or higher education contexts. In particular:

- Instructional design is frequently included in Bachelor and Master level programmes.
- Digital pedagogy and e-learning methodologies are incorporated into teacher education.
- Vendor-based certifications (e.g., digital authoring tools, LMS platforms) are widely available.

ID TEACHERS comparative results indicate that no partner country currently provides a dedicated VET-specific certification exclusively focused on learner-centred instructional design for micro-learning.

In most cases:

1. Validation focuses on broader pedagogical competences.
2. Micro-learning is addressed as part of general digital education strategies.
3. Certification pathways are not specifically tailored to VET practitioners.
4. Recognition mechanisms are fragmented or indirect.

This finding reveals a shared European pattern: instructional design is acknowledged as important, yet micro-learning instructional design is not formally consolidated as a distinct, certifiable professional competence within VET systems.

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Country-Level Developments

Italy: In Italy, the validation, certification and accreditation of competences are regulated through a structured national framework, particularly following Law 92/2012 and Legislative Decree 13/2013, which established a national system for the certification of competences and validation of non-formal and informal learning. The Italian National Qualifications Framework (QNQ) is aligned with the European Qualifications Framework (EQF), ensuring transparency and comparability of qualifications at European level. Recent strategic developments, such as the "New Skills Plan – Transitions" (2024), highlight the role of micro-credentials, digital badges and enhanced labour market analysis systems. Instructional design competences are primarily addressed within higher education programmes and professional training initiatives. Micro-learning approaches are increasingly referenced within policy discussions and digital training contexts, including professional development applications and sector-based initiatives. The regulatory and policy environment provides a structured foundation for further integration of learner-centred instructional design competences within vocational education and training.

Spain: Spain operates under the National System for Qualifications and Vocational Education and Training (INCUAL), which supports modular recognition of learning through "units of competence" aligned with the EQF. The Spanish Qualifications Framework (MECU) facilitates comparability at European level, while adherence to the EQAVET framework ensures quality assurance within VET institutions. National initiatives such as the Digital Spain Agenda 2026 and the National Plan for Digital Skills promote digital competence development and the integration of DigCompEdu principles into teacher training. Instructional design competences are addressed within broader professional certifications, including Certificates of Professionalism, and are supported by regional professional development initiatives. Micro-learning methodologies are implemented in various regional and sectoral programmes, including digital and industry-linked training initiatives. Spain's modular qualification structure offers opportunities for integrating learner-centred instructional design competences within existing frameworks.

Austria: Austria's validation and certification system is structured around the Austrian National Qualifications Framework (NQF), which is aligned with the EQF and supports transparency and cross-border recognition. National strategies, including the Digital Education Strategy, promote the integration of digital tools and innovative pedagogical approaches in vocational education and training. Instructional design competences are addressed within higher education programmes and professional development contexts, particularly in areas related to digital pedagogy and e-learning. Practitioners also engage in certifications related to digital authoring tools and learning management systems, contributing to applied digital expertise. Micro-learning principles are incorporated within broader digital teaching initiatives and apprenticeship platforms. The Austrian framework provides structured quality assurance mechanisms aligned with European standards.

Portugal: Portugal aligns its National Qualifications Framework (NQF) with the European Qualifications Framework and supports digital transition through national strategies such as the National Action Plan for Digital Transition, the Recovery and Resilience Plan and INCoDe.2030. Validation of pedagogical competences is supported through mechanisms such as the Certificado de Competências Pedagógicas (CCP), while recognition processes are also facilitated through the RVCC system (Recognition, Validation and Certification of Competences). Instructional design competences are addressed through higher education programmes and accredited vocational training providers. Digital tools and modular learning approaches are increasingly integrated within VET institutions, including pilot projects supported by national agencies. European initiatives related to micro-credentials provide additional strategic direction for the development of modular and flexible learning opportunities within the Portuguese context.

Ireland: In Ireland, instructional design qualifications are validated through the Irish National Framework of Qualifications (NFQ), overseen by Quality and Qualifications Ireland (QQI). Instructional design and micro-learning design are included within Bachelor and Master degree programmes, corresponding to Levels 7–9 of the NFQ. These qualifications are quality assured and aligned with the EQF, ensuring comparability at European level. National strategies in further education and training, including those led by SOLAS and the Department of Education and Skills, support broader digital transformation objectives. Professional development courses in instructional design are also available through private providers and higher education institutions. The Irish framework ensures that recognised qualifications meet defined quality standards within the national system.

Türkiye: Türkiye operates within the Turkish Qualifications Framework (TQF), which is aligned with the European Qualifications Framework and supports the validation and comparability of qualifications. Certification processes are regulated by the Vocational Qualifications Authority (VQA) and the Ministry of National Education (MoNE), while higher education quality assurance is overseen by the Higher Education Quality Council of Türkiye (THEQC).

National strategies such as the National Education Vision 2023, the Vocational and Technical Education Strategy and the Lifelong Learning Strategy promote digital transformation and modular learning approaches within VET. Platforms such as the Education Informatics Network (EBA) provide digital and interactive learning resources aligned with micro-learning principles. Instructional design competences are addressed within professional development programmes, university courses and EU-funded initiatives. The governance framework supports alignment with European standards and ongoing development of digital pedagogical competences.

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Overall Review of the ID-Teachers Project Testing Phases

The overall review of the ID-Teachers Project testing phases shows a very positive and picture across all partner countries. Both the first and second trial phases confirm that the project responds well to the real needs of VET teachers and learners, especially in the areas of **digital competence and learner-centred instructional design.**

During the 1st Trial Phase, VET teachers, trainers and professionals tested the Virtual Campus and the Educational WebApp in different national contexts. In general, participants described the training modules as clear, well-structured and easy to follow. The instructional flow was considered logical and practical, helping teachers better understand how to design micro-learning content. For example, the first trial conducted by GOI received exclusively positive responses, with most participants selecting “Strongly Agree” in almost all evaluation items . Similarly, Meta4 participants emphasized the intuitive structure of the platform and its relevance to real vocational training settings.

INFODEF's first phase results also reflected high satisfaction. Participants appreciated the user-friendly interface, the visual clarity of the tools, and the time-saving nature of templates and ready-to-use features. They reported feeling more confident and better prepared for online and digital learning environments after completing the training. Only minor issues were mentioned, such as occasional slowness during registration. Overall, no major negative findings emerged in the first phase; suggestions mainly focused on small technical improvements and expanding support materials.

The 2nd Trial Phase shifted the focus more strongly toward learners and practical classroom implementation. Again, feedback was overwhelmingly positive. In the case of the Governorship of Istanbul, learners highlighted that the micro-learning modules were short, clear, engaging, and easy to access. They particularly appreciated being able to use QR codes without complicated registration processes, and the flexibility of accessing content anytime and anywhere. Most responses were at the highest level of agreement, with only a small percentage choosing "Agree" instead of "Strongly Agree" in a few areas. INFODEF's second phase findings also showed that learners enjoyed the interactive and gamified nature of the WebApp. Some even compared the activities to popular language-learning applications, appreciating the speed, competitiveness and mobile-friendly design. The main challenge identified was that fully autonomous use of the Virtual Campus for course creation required additional guidance and supporting documents.

In conclusion, both trial phases demonstrate that the ID-Teachers Project successfully combines pedagogical quality with practical digital solutions. The Virtual Campus and WebApp are seen as intuitive, motivating and relevant to VET practice. Participants reported increased confidence, improved digital skills, and strong willingness to continue using the tools.

Tools and Recommendations to Implement the ID-Teachers Project Results

The integration of learner-centred instructional design for micro-learning into formal recognition systems requires structured and coherent support mechanisms. In this aspect The ID Teachers project offers practical and policy-oriented tools that may assist national authorities, accreditation bodies and VET institutions in progressively strengthening validation and certification processes.

This section presents key instruments that can support the gradual maturation of certification and accreditation frameworks while remaining aligned with existing European and national qualification structures.

Competence Structuring and Alignment with Qualification Frameworks

A fundamental step in the maturation of certification systems is the structured definition of the competence domain. The ID Teachers Competence Matrix provides a clearly articulated description of learner-centred instructional design competences for micro-learning, expressed through learning outcomes and aligned with European standards. By referencing these competences to EQF level descriptors and mapping them against existing NQF structures, policymakers and qualification authorities may position this emerging competence area within established frameworks. Such alignment strengthens transparency and comparability, facilitating institutional dialogue without necessitating the immediate establishment of new standalone qualifications.

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The structured articulation of knowledge, skills and responsibility/autonomy dimensions also supports the development of assessment criteria and validation methodologies. Accreditation bodies may use these descriptors as reference points when evaluating programme quality or considering the recognition of modular certification units. In this regard, competence structuring and framework alignment serve as foundational instruments for enhancing regulatory coherence and supporting the systematic recognition of learner-centred instructional design for micro-learning.

Modular Certification Pathways, Micro-Credentials and Digital Recognition

A gradual and flexible approach to certification may be achieved through modular structures and micro-credential integration. Instead of introducing comprehensive qualifications at once, competences related to learner-centred instructional design for micro-learning may be organised into clearly defined modules or competence units, each linked to specific learning outcomes and assessment standards.

Such modular units may function as micro-credentials within continuing professional development (CPD) systems.

Digital credentialing mechanisms further reinforce transparency and portability. The use of Europass Digital Credentials or comparable digital certification systems enables the issuance of verifiable certificates containing structured metadata, including learning outcomes, workload references, EQF alignment and issuing authority information. These digital instruments enhance cross-border comparability and strengthen trust in certification processes.

The integration of modular certification and digital credentialing supports the development of a scalable and interoperable recognition ecosystem. It aligns with European priorities related to lifelong learning, micro-credentials and digital education transformation.

Implementation Strategies for micro-learning experiences through Instructional Design in ID-Teachers Project

The implementation of micro-learning experiences within the ID Teachers framework is grounded in learner-centred instructional design principles and structured pedagogical planning. Effective implementation begins with clearly defined, measurable learning outcomes that focus on specific competences relevant to vocational education and training. Micro-learning units are designed to address one focused objective at a time, ensuring cognitive clarity and avoiding content overload. The modular structure of the Virtual Campus supports educators in aligning objectives, content, and assessment in a coherent way, enabling the transformation of instructional design theory into practical and applicable digital learning scenarios.

A central strategy in implementation is the integration of interactive and formative elements that actively engage learners. Micro-learning experiences are designed to include short, meaningful activities such as quizzes, scenario-based tasks, reflection prompts, and applied exercises. The Educational WebApp enhances this approach by offering dynamic, mobile-friendly activities that can be accessed easily, including through QR-based entry points. This increases accessibility, reduces technical barriers, and allows micro-learning to be integrated flexibly into classroom instruction, blended learning models, and work-based learning environments. Immediate feedback mechanisms embedded within the activities support learner motivation, self-regulation, and continuous improvement.

Sustainable implementation also requires structured educator support and quality assurance processes. Teachers benefit from practical templates, step-by-step guidance, and examples that facilitate course creation within the Virtual Campus. Short onboarding sessions, peer exchange opportunities, and continuous feedback collection strengthen capacity building and ensure long-term adoption. By combining pedagogical coherence, digital usability, and ongoing professional support, **the ID Teachers model enables vocational educators to design and deliver efficient, engaging, and competence-oriented micro-learning experiences aligned with contemporary digital education standards.**

Conclusion

The ID Teachers project's structured approach to learner-centred instructional design for micro-learning has demonstrated strong potential to strengthen digital pedagogical competences within vocational education and training systems. As reflected throughout this Reference Document, the integration of a European Competence Matrix, a modular Training Programme, a Virtual Campus and an Educational WebApp provides a coherent and practice-oriented ecosystem that responds to emerging digital and labour market demands. The piloting phases confirmed that combining structured instructional design methodology with accessible digital tools enhances both educator confidence and learner engagement, while supporting measurable competence development aligned with European standards.

The project's comparative analysis further highlights that, although national qualification frameworks across partner countries are well aligned with European instruments such as the EQF and quality assurance mechanisms, specific certification pathways dedicated to micro-learning instructional design remain limited. In this respect, ID Teachers contributes not only innovative pedagogical practice but also a strategic perspective on validation and accreditation. The proposed modular certification pathways, micro-credential integration and digital credential solutions create opportunities for greater transparency, portability and formal recognition of instructional design competences within VET systems.

This Reference Document therefore serves as a policy-oriented roadmap for educational institutions, accreditation bodies and decision-makers seeking to integrate learner-centred micro-learning design into formal professional development structures. By outlining structured alignment strategies, quality assurance considerations and implementation mechanisms, the document supports a more coherent and sustainable recognition ecosystem. The long-term vision of ID Teachers is to reinforce professional mobility, strengthen digital pedagogical capacity across Europe, and promote a more flexible, competence-based and learner-centred VET landscape that responds effectively to continuous technological and societal transformation.

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