PR 5 Implementation

5.3: Best Practice Report

PACE VET
Digital Credential

Project Leader

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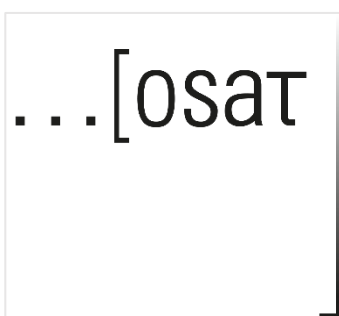Johan.van.den.broek@ehb.be
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1. Status Quo

1.1 The Path to PACE-VET and its Potential

The Erasmus+ project PACE-VET relied on and refers to many previous projects relating to the validation of competences in the live-performance and event technology sectors. Without their results, the assessment processes carried out and the development and roll-out of the mobile application would not have been possible. In TeBeVAT, the bundles of competences gathered into occupational profiles (Units) were a prerequisite for the microcredential units assessed in PACE-VET. The ETTE project plays a central role in understanding the PACE-VET approach to validation and recognition of prior, non-formal and informal learning on a European level via microcredentials. It should be noted that the ETTE-assessment process[1] has found acceptance in Europe with assessments and certification taking place in Finland, Belgium, Sweden and The Netherlands.

The ETTE-assessment process is exemplary for the implementation of European educational policy regarding the validation of non-formal and informal learning outcomes derived from competence bundles that represent microcredentials for a specific sector. It is pan-European and has shown in practice what can be done – if policy makers in national educational frameworks, learners, VET educational institutions, and employers as well as employer, employee, and industry bodies associations agree on acceptance of new paths to validation and certification and provide sufficient funding for such processes.

The TeBeVAT project determined sector specific skills, competences, knowledge blocks and transversal skills at the EQF Level 4 using the common denominator ESCO (as in ETTE) for a general description of seven (7) occupational profiles. Sector specific mentor and assessor profiles were also defined. This was the prerequisite for the creation of microcredentials (competence bundles) and their assessment in PACE-VET.

PACE-VET has proven that assessment of learning outcomes backed by robust quality assurance and the limited set of microcredentials is possible. At the same time, limits on implementing and maintaining such processes became evident.

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[1] See: Project Website: https://ette.dthgev.de/page-2/index.html (accessed on October 15th, 2024)

1.2 Microcredentials and Recognition of Non-formal and Informal Learning

1.2.1 Acceptance of Microcredentials

There is currently a purported emphasis on the importance of microcredentials for the future of European labour-market-related educational policies. Nonetheless, in a European survey of stakeholders[2] representing national authorities, the following barriers to the uptake of microcredentials in national contexts were ascertained:

1. There is no transparent and commonly agreed definition of microcredentials (74%)
This leads to much confusion in the vocational educational community and in the labour market. The validation of non-formal and informal learning outcomes and of lifelong learning (CVET) and methods for reskilling and upskilling is of great importance for the economic policy of the EU as a part of the "*definition* of *common objectives*"[3]. There therefore should be a sense of immediacy to clearly define educational definitions, policies, and goals that then become strong recommendations for Member States. This would still be in accordance with Title XII, Article 165 of the TFEU.

The microcredential units in PACE-VET recognising prior, non-formal and informal learning, address the needs of the labour market, allow upskilling and reskilling, and widen access to a greater variety of learners.[4]

2. Recognition of microcredentials is not standardised (74%)
As explained in PR 4.2, the mutual recognition of microcredentials is a dependent on:

- Aligning the competences, skills, knowledge blocks and transversal skills that make up the learning outcomes in the microcredentials to be assessed with current qualification requirements in Member States, and

- Finding a common denominator for skills, competences, occupations, and qualifications that is transferable and already in place (ESCO) and

- Implementing recognised quality management guidelines such as the ISO Standard 17024: Conformity assessment – General Requirements for Bodies Operating Certification of Persons into the process.

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[2] Pouliou, A. (2024). Exploring the emergence of microcredentials in vocational education and training (VET). Publications Office of the European Union. Cedefop working paper series, 22. http://data.europa.eu/doi/10.2801/671358, Page 75. Table 15. (accessed on October 15th, 2024)

[3] TFEU. TITLE VIII. Economic and Monetary Policy. Article 119. (1)

[4] Cedefop. (2023). Microcredentials for labour market education and training – First look at mapping microcredentials in European labour-market-related education, training and learning – Take-up, characteristics and functions, Publications Office of the European Union. https://data.europa.eu/doi/10.2801/351271, Page 41. (accessed on October 15th, 2024)

It doesn't really make sense to attempt to "standardize" some aspects of the properties of microcredentials as one of their most important benefits for the educational system is their ability to quickly:

- Adapt to new skills emerging within labour market sectors and society,

- To provide short lead times to certification,

- To address modern work/life balance issues.[5]

Standardisation is only essential when it comes to the methods of creating learning outcome content as well as validation, certification, documentation and quality management guidelines. If all stakeholders in the sector agree, there should be no problem with recognition.

3. Added value of microcredentials not clear to employers (48%)

This is a very revealing response, as in the same study, *VET providers* responded with only 22% that "*Employers do not recognise/understand the value of acquired competences that microcredentials signal*"[6] In another result from the study, *employers* stated that their main reason for using microcredentials (64%) was "*To address skills mismatches and skills shortages within the company*".

It appears, that a majority of national authorities are neither in sync with VET providers nor employers when it comes to the "added value offered by microcredentials".

4. There is a lack of funding for the development and implementation of microcredentials (39%)

This is certainly the case. Utilizing microcredentials is still not a well-established practice in many Member States.[7] Most of public educational funding in VET in the EU is directed to Initial Vocational Education and Training (IVET) to acquire skills and competences leading to a specific occupation or job. As an OECD study[8] has shown, VET schools must continuously update their practical training offer to ensure its relevance to the requirements of the labour market. This creates the premise that significant investments must be made into training, equipment and physical infrastructure. This constant need for funding may also discourage innovation and experimentation[9]. Work-based skills training offers market relevance at a fraction of the cost. While apprenticeship programmes are the most efficient means for training in IVET, they are not available in all Member States and they are securely imbedded in national education frameworks that hamper inclusiveness and equity. They are also not inexpensive. For example, in Germany, employers pay

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[5] Beirne, E., Nic Giolla Mhichíl, M., & Brown, M. (2020). Micro-credentials: an evolving ecosystem. Dublin City University. https://www.skillnetireland.ie/publication/insightspaper-micro-credentials-an-evolving-ecosystem/, Page 5. (accessed on October 15th, 2024)

[6] Pouliou, A. (2024). Page 75.
[7] Pouliou, A. (2024). Page 47.
[8] OECD (2017), The Funding of School Education: Connecting Resources and Learning, OECD Publishing, Paris. http://dx.doi.org/10.1787/9789264276147-en, Pages 64 + 65 (accessed on October 15th, 2024)

[9] OECD (2017). Page 65.

around 20.800 Euros each year for apprentices[10] (they also have earnings through them of around 14.300 Euros). In 2020, public funding for VET was 9.884 billion Euros[11]. At the same time, apprentices (and their parents) must invest between 141.260 to 175.155 Euros for the 16 to 19 years leading up to conclusion of their IVET[12]. While the partners agree that adequate funding for apprenticeship programmes makes sense, there is no similar funding activities available in national frameworks for partial certification programmes or up- and reskilling training in CVET. Such programmes as "ValiKom Transfer" in Germany are certainly a step in the right direction, but they offer no European perspective, as they are based solely on qualification content imbedded in the national occupational profiles. In general, the partners agree with the OECD recommendation that: "*The majority of these recent initiatives are implemented using temporary funds and lack a dedicated and continuous source of funding, suggesting the need for exploring a sustainable way of financing micro-credentials.*"[13]

PACE-VET has proven that a recognisable validation and certification process for microcredentials in the live performance and event technology sector for technicians is possible. Results also made clear that the necessity for further resources to implement the process are needed.

5. There are regulatory barriers relating to quality assurance (39%)
Mutual recognition of assessments of learning outcomes always depends on trust in the quality assurance of the processes for the creation and validation of microcredentials. Accreditation centres such as ETTEC could provide this – if the necessary funding was available.

6. There is a lack of digital solutions for validation, recognition and storage of microcredentials (35%)
The PACE-VET project has attempted to provide exactly that: a digital solution for technicians in the live performance and event technology sectors in Europe. However, the development of an application that met the sectors' expectations was a challenge. The tech-savvy users in our industry demand high-quality usability and design solutions.

7. Microcredentials are not on the national/regional policy agenda (26%)
Generally, it can be said that learner's experiences withing the national educational policy agenda with microcredentials have been marginal. Although European recommendations and policy advice have generated attention in Member States, a great deal of the national initiatives for microcredentials have been in the areas of higher education (e.g. MOOCs = Massive Open Online Courses) and not in VET. The OECD Survey of Adult Skills, has shown that: "*prove that learners enrolled in micro-credential programmes also tend to have a*

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[10] BIBB-Cost-Benefit-Survey/BIBB-CBS 2017/2018). Table A9.2-1.
[11] BiBB (2021) Weitere Ausgaben Datenreport 2021. Table A9.3-1.
[12] Bundeszentrale für politische Bildung.(2023) Dossier Bildung. Was kosten Bildungswege in Deutschland?
[13] OECD (2023). Page 27.

higher education degree, come from more privileged socio-demographic groups, and have some prior knowledge related to the course topic"[14] At the same time, the study shows that: *Targeted and short-term credentials with a vocational orientation have markedly better labour market outcomes than those in more generic or academic fields."*[15]

8. Microcredentials are not compatible with the national qualifications system / framework / catalogue (26%)

From the beginning, the competences in the microcredentials in the TeBeVAT and PACE-VET processes were always directly integrated with the EQF levels and compared with national occupational profiles and their NQF level.

9. Education and training providers are not interested in the provision of microcredentials (26%)

One of the key findings of the recent study by Cedefop was that the majority of labour market stakeholders offer credentials in cooperation with VET providers.[16] However, traditional (public) providers are not really in the mix. Large companies, industry associations, start-ups, online learning platforms, nongovernmental organisations and international organisations are currently the leaders in providing microcredentials in the labour market.[17]

10. Learners are not interested in/do not value short learning activities that can be completed with microcredentials (9%)

According to a study in 2019, a majority (96%) of trainees stated that they would: "*be happy to display a digital badge on their online profiles"* and over *"80% believed that earning a digital badge would be useful or very useful."*[18] Another key finding of the recent study by Cedefop was that: *Groups of learners engaged with microcredentials are more diverse than those engaged with full qualifications, including employees, new hires, individual learners, customers of a company*.[19] The partners stress the importance of the PACE-VET process to enable learners in our sector to build and validate their professional skills (non-formal and informal learning).

1.2.2 Acceptance of Recognition of Non-formal and Informal Learning

The PACE-VET project does not attempt to replace formal qualifications (IVET) in Member States but facilitates a process of assessment and recognition of learning outcomes that promotes lifelong learning, provides access of validation to a greater diversity of learners – including individual learning pathways, and provides a digital platform (app) to record, assess, and disseminate those learning outcomes. Nonetheless, VET in national education

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[14] OECD (2023) Education Policy Perspectives. Page 20.
[15] OECD (2023) Education Policy Perspectives. Page 8.
[16] Pouliou, A. (2024). Page 95.
[17] Pouliou, A. (2024). Page 96.
[18] Corrigan-Matthews, B., & Troy, A. (2019) Developing New Learning Technologies. Pages 24
[19] Pouliou, A. (2024). Page 95.

frameworks is still almost always understood by educational practitioners as "the" single and only recommended path to full qualifications.

The European Union has consistently recommended Member States to adopt validation processes for non-formal and informal learning and give "*individuals the opportunity to demonstrate what they have learned outside formal education and training*"[20]. Many stakeholders in VET are still unsure, confused or feel threatened by such procedures. Due to the regulatory limitations of European policies in the area of education (TFEU), Member States, when they have undertaken anything at all, have often created solutions based solely on their educational frameworks (see: the Valikom Project[21]).[22]Learning and learning outcomes, however, are not restricted to educational institutions or national borders.

2. PACE-VET – Best Practice

2.1 Cedefop: Main aspects of Validation · How does PACE-VET stack up?

Shortly after the initial assessment processes in February of 2023, Cedefop published their newest "European guidelines for validating non-formal and informal learning"[23]. In their concluding remarks to the Third Edition of the "European guidelines for validating non-formal and informal learning", the authors provided a graphic with the main aspects of validation. In their opinion, validation is about:

(a) how to make visible the outcomes of non-formal and informal learning;

(b) how to attribute appropriate value to outcomes of non-formal and informal learning.[24]

How does the PACE-VET process stack up to their recommendations?

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[20] In: Anslinger, Eva, Husted, Bodil Lomholt, Laudenbach, Franziska, Lis, Aleksandra, Ünlühisarcikli, Özlem [Hrsg.]: (2022). Patuzzi, Mario. Germany's winding paths to the implementation of validation Or: how to introduce a new instrument without damaging a successful system? Page 7.

[21] Anslinger (2022) Patuzzi. Page 5.

[22] Anslinger (2022) Prawelska-Skypek. Page 169.

[23] Cedefop (2023). Guidelines.

[24] Cedefop (2023). Guidelines. Page 58
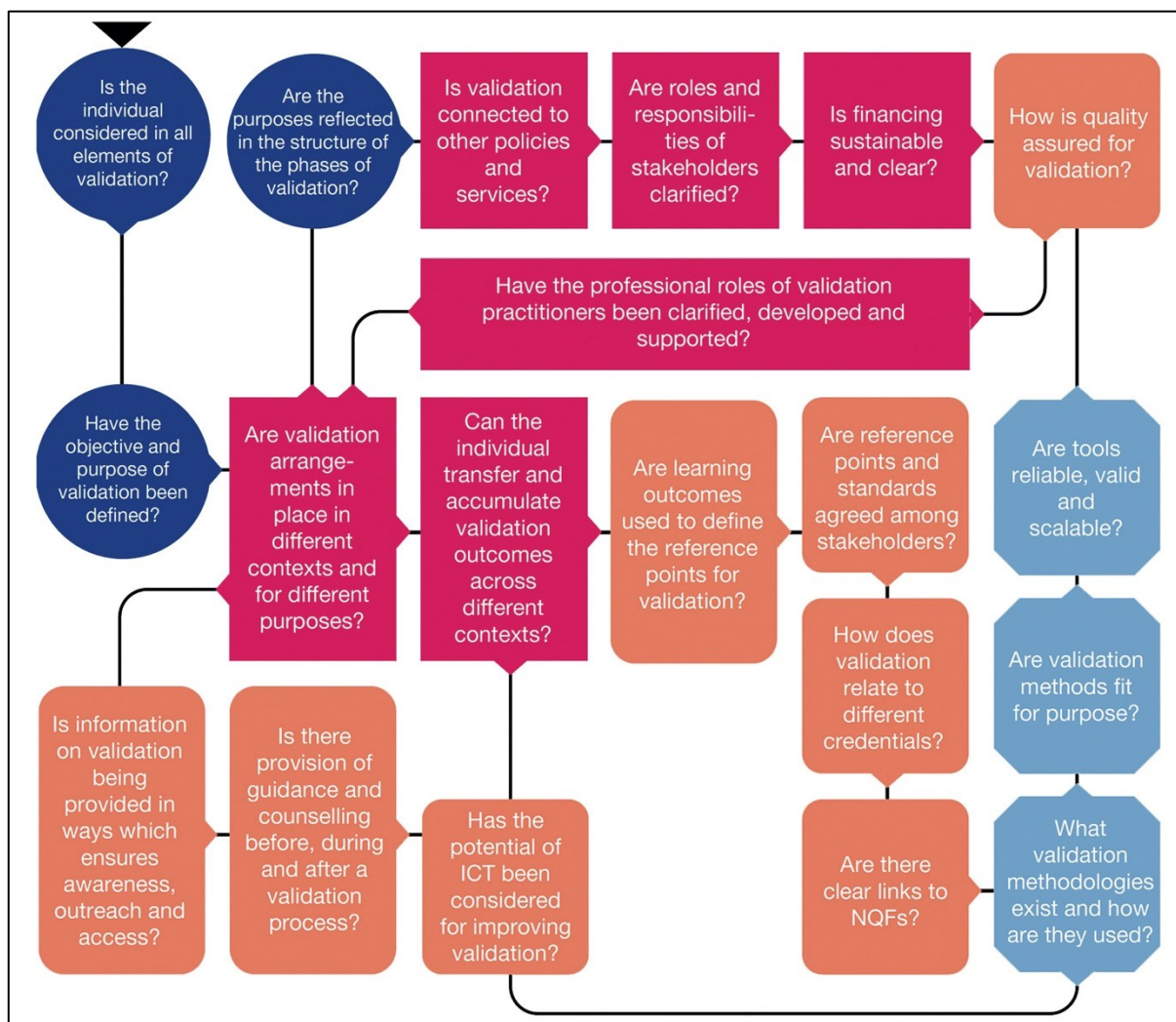
Figure 1: Main aspects of validation

Source: Cedefop (2023). European guidelines for validating non-formal and informal learning. Luxembourg: Publications Office. Cedefop reference series; No 124. http://dx.doi.org/10.2801/389827, Page 58. (accessed October 15th, 2024)

2.1.1 Is the individual considered in all elements of validation?

PACE-VET, in alignment with the European guidelines, places the individual in control of the entire validation process and secures their ownership of all the data and processes in the PACE-VET application. Special needs of candidates are considered to ensure inclusivity.

2.1.2 Have the objective and purpose of validation been defined?

The objective is a European validation and certification of learning outcomes in the labour market for live performance and event technicians based on occupational profiles that are based on the European classification for Skills, Competences, Occupations and Qualifications. These have been reviewed and include sector specific modifications. Partial certification of microcredentials (competence bundles) is the standard procedure. The PACE-VET App allows candidates to create a structured portfolio to document their learning

experiences and credentials and to request mentoring and assessment. They can also use the App to seek employment opportunities. The App could also be a method to access other lifelong learning opportunities and to communicate with colleagues through a user group function.

Although learning outcomes are currently focussed on the EQF-Level 4, the process can be executed in any VET EQF-Level.

2.1.3 Are the purposes reflected in the structure of the phases of validation?

As can be seen in the illustration of the PACE-VET processes, all purposes have been reflected in all phases.

2.1.4 Is validation connected to other policies and services?

Validation in PACE-VET is based on learning outcomes directly connected to ESCO – the European classification for Skills, Competences, Occupations and Qualifications. Validation is connected to a digital structured portfolio, information on microcredential units available and their ESCO competences, mentoring, certification with digital credentials, and job market opportunities. In the future, educational providers should also be able to provide learning opportunities for candidates.

2.1.5 Are roles and responsibilities of stakeholders clarified?

The roles of stakeholders are clear but due to lack of funding for organisation and implementation, they are not necessarily in an operational mode.

- Role and Responsibilities of an Accreditation Entity

  Its role is to provide quality assurance, administration and supervision. It would have the responsibility to accredit assessment centres, validate and certify assessors and mentors, provide information and documentation, administrate, and provide server capacity and data traffic for the application. They ensure valid credentialization of candidate's learning outcomes. A European accreditation entity must be established. The project partners strongly recommend choosing the existing ETTEC organisation (ETTE-Safety Certificate) for this role.

- Role and Responsibilities of Candidates

  Candidates own the process. They have the responsibility to adhere to the guidelines for verifiable documents in their portfolios. They must have an opportunity to find out about the app and the process (advertising). They must be able to receive and access information about the app and process. They must be convinced that the PACE-VET app makes sense for their lifelong learning and employment opportunities.

- Role and Responsibilities of Assessors

They assess candidate's documentation, if requested, in accordance with the assessment procedures and guidelines. They have the responsibility to adhere to the quality standards in the process.

- Role and Responsibilities of Mentors

They support the candidate in the process. If requested, they provide expertise in regard to the viability and verifiability of the candidate's proof of learning outcomes. They may recommend further training or provide information about learning opportunities. They do this in accordance with the assessment procedures and guidelines. They have the responsibility to adhere to the quality standards in the process.

- Role and Responsibilities of National Educational Frameworks

National education frameworks have the role to accept validation results based on the robust quality assurance in place and to support the process. They have the responsibility to support worker mobility by cooperating with the European accreditation entity when national qualifications and competences need migration into the process. Responsibility for funding some assessments could be a viable option to increase inclusivity and to reduce social inequality in access to validation of learning outcomes.

- Role and Responsibilities for Educational Institutions in the Sector

They can have the role of assessment centre, if they are accredited by the European accreditation entity. In this function, they must provide assessment opportunities in accordance with the guidelines for the chosen assessment methods. They support the assessors and candidates in the process and handle its documentation. They have the responsibility to adhere to the quality standards.

- Role and Responsibilities for Employers in the Sector

Employers can accept the credentials provided as viable and legitimate validation of learning outcomes. If given access, they can review candidate's portfolios and contact candidates through the PACE-VET App. They have the responsibility to adhere to the GDPR guidelines. They could have the responsibility of providing either candidate-based or process-based funding.

- Role and Responsibilities for Associations in the Sector

Sector associations (trade associations / social partners) can support the process by providing documentation and promotion of the process. They could also play a role in the identification phase by providing resources for intake interviews or mentoring. They could have the responsibility of providing either candidate-based or process-based funding and funding of the European accreditation entity. They have the responsibility to further support research towards implementation and extension of the process and increasing the functions and features of the App.

2.1.6 Is financing sustainable and clear?

Financing is not secured. The assessment of learning outcomes based on assessment methods that are focussed on the individual and must adhere to high quality standards are not a "low-price" affair. It is clear, as Cedefop states: *"Validation arrangements must be sufficiently and sustainably funded. In the context of an overall strategic approach to validation, costs and resource allocation need to be discussed and agreed among stakeholders."*[25] Currently, a consensus on instruments or structures for resource allocation is extremely difficult due to the "chicken or egg" paradox:

- With no fully financed structure for quality assessment and documentation in place, it is extremely difficult to convince stakeholders in the sector to accept the process.

- Without acceptance in the sector, the process has no chance to find funding.

It is comparable to a start-up company, that is seeking venture capital for a great idea, that cannot be tested until sufficient funding is available. As the goal cannot be to capitalize on weaknesses in the current education and validation processes in the European Union and offer private investors a chance to get a substantial "ROI", the project's future is reliant on funding structures that currently need revision to be able to carry out validation.[26]

As well set forth in the Cedefop guidelines[27], earmarked European funding for such validation processes and monitoring of its use would certainly make it easier for all stakeholders to understand PACE-VET's contribution to the overall functioning of lifelong learning systems and validation of learning outcomes. Demand-side funding instruments and individual learning accounts (ILA), that are publicly funded, could be the solution for the future, once the accreditation centre (ETTEC), assessment centres, assessors, mentors and public and sector support by national education frameworks and associations are secured and in place.

In the long run, the validation processes might not be more expensive than running certain programmes. Collective or cohort-based validation processes, in which several people are involved in a validation process for specific period of time, can reduce costs by being more efficient in the provision of information, guidance, and mapping of standards. Adaptability will certainly be less expensive to apply in other similar contexts once an infrastructure is in place.[28]

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[25] Cedefop (2023). Guidelines. Page 28.
[26] Cedefop (2023). Guidelines. Page 28.
[27] Cedefop (2023).
[28] Cedefop (2023). Guidelines. Page 29

2.1.7 Have the professional roles of validation practitioners been clarified, developed and supported?

The high standards for the roles of assessors in the PACE-VET process are clearly defined, developed and supported by the interrelationship to ESCO. Experience with assessors involved in the assessment procedures for the ETTE Safety Certificate[29] and the assessor training in PACE-VET are exemplary.

2.1.8 Are validation arrangements in place in different contexts and for different purposes?

The assessment procedures provide for validation in different contexts and for different purposes. The candidate's individual aims are always respected:

- Collection of evidence on learning outcomes achieved in different contexts (individual trajectories – non-formal and informal prior learning, formal training)
- Partial validation of learning outcomes within a qualification framework (EQF)
- Validation of single competences or microcredentials
- Documentation of learning outcomes – with or without validation
- Documentation of lifelong learning = "learning to be"
- Work opportunities through disclosure of validation results or portfolio documentation

2.1.9 Can the individual transfer and accumulate validation outcomes across different contexts?

All forms of validation results can be accumulated in the App. The digital credentials should be compatible with European Digital Credentials (EDC). This facilitates transfer of individual certification outcomes.

2.1.10 How is quality assured for validation?

Quality assurance is based on the EN ISO IEC Standard 17024:2012-11: Conformity assessment – General requirements for bodies operating certification of persons. A quality management process is in place that includes the following elements:

- Code of conduct
- Procedures & Standards
- Training & Validation
- Agreed & Validated Content
- Rules & Paths for Equal Opportunity

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[29] See: Handbook. Project Website: https://ette.dthgev.de/page-2/index.html (accessed on October 15th, 2024)

- Appeals Process

2.1.11 Is information on validation being provided in ways which ensures awareness, outreach and access?

As the project has no specific funding for promotional activities directly created for and directed to all stakeholders in the sector, knowledge of the validation process is limited to the project partners' ability to use the dissemination opportunities available within the funding limits of an Erasmus+ project.

Presentations at important trade shows in the sector and the selection to be part of the 'Projects Showcase: Connecting Creative Initiatives' at the Creative Skills Week 2024 in Amsterdam created interest within and without the live performance and event industries. The PACE-VET website provides information, training materials, detailed assessment processes and accessibility to the application.

As clarified in 2.1.6, for further awareness and outreach, European earmarked funding and implementation of a European accreditation agency would be prerequisites for establishing a pilot project that would have appropriate resources.

2.1.12 Is there provision of guidance and counselling before, during and after a validation process?

From the beginning, TeBeVAT and PACE-VET have included mentors in the process to support individual candidate's needs. As with assessors, mentors need sufficient training and validation of their learning outcomes as provided in the mentor profile competence list. Funding for mentor training, validation, and deployment remains a challenge.

2.1.13 Has the potential of ICT been considered for improving validation?

The PACE-VET Application illustrates the partner's commitment to enabling up-to-date information and communication technology solutions for the process and candidates. The target group is extremely tech-savvy and therefore open to technology-based tools for training, validation, and documentation. They also expect a perfected professional user interface and experience combined with extremely high security provisions regarding their data. During the project, the challenges for the development and launching an application that would meet these expectations became clear. Although basic functions were implemented, several aspects of a state-of-the-art user experience could not be delivered. The results of the usability study for the Application can be found in WP 2.4.

While cutting-edge tools such as extended reality and game-based assessment were considered, the resources available limited their development and implementation. For example, augmented or immersive virtual reality solutions could extremely lower the costs of the assessment method "Observation in a Simulated Environment" over the long run,

but the initial investment on creating such applications is still quite high[30]. There are many current studies[31],[32] and Erasmus+ projects[33] that illustrate the significant potential of such assessment tools and frameworks. The project partners are open to such solutions and would strongly support the development of such tools for assessment and training.

2.1.14 Are learning outcomes used to define the reference points for validation?

PACE-VET **only** uses learning outcomes to define reference points for validation.

2.1.15 Are reference points and standards agreed among stakeholders?

- Throughout the TeBeVAT and PACE-VET projects, all project partners agreed in consensus on the process, reference points and standards. As the process has remained a "project", it remains to be seen if all stakeholders will accept them. There is a great deal of variation in the changing landscapes that exist between different European countries and the characteristics of national VET systems and even in the labour market sector for live performance and event technology. Although the PACE-VET is based on current "European" guidelines, no consensus on the modularisation of VET and the use of microcredentials for assessment yet exists and some stakeholders do not agree with these changes in theory or praxis[34]. There are many reasons for this:

- The shift to assessment of learning outcomes in microcredential units at an institutional level requires fundamental change in the approaches of individuals and institutions to assessment within VET.

- The complex and new processes of assessing individual learning outcomes require time and sustained policy support in all Member States.

- The success of learning-outcomes-centred policies in VET depends on a multitude of interactions of stakeholders at all levels in the process: educational policy decision-makers, developers of curriculum and assessment frameworks, representatives of social partners, state- or chamber-based assessment systems, employers, educational institutions, teachers, trainers, parents and most of all: trainees.

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[30] HHS Public Access. (2020) Author manuscript PMC 2020 May 17. Comparative Cost of Virtual Reality Training and Live Exercises for Training Hospital Workers for Evacuation, https://pmc.ncbi.nlm.nih.gov/articles/PMC7231540/, (accessed on October 15th, 2024)

[31] Udeozor, C., Chan, P., Russo Abegão, F. et al. Game-based assessment framework for virtual reality, augmented reality and digital game-based learning. Int J Educ Technol High Educ 20, 36 (2023). https://doi.org/10.1186/s41239-023-00405-6, (accessed on October 15th, 2024)

[32] Herbert Thomann, Jan Zimmermann, Viola Deutscher. (2024) How effective is immersive VR for vocational education? Analyzing knowledge gains and motivational effects, Computers & Education, Volume 220, 105127, ISSN 0360-1315, https://doi.org/10.1016/j.compedu.2024.105127.https://www.sciencedirect.com/science/article/pii/S03601315 24001416, (accessed on October 15th, 2024)

[33] Erasmus+ project LAAR, https://www.podiumtechnieken.be/en/competentions/laar/, (accessed on October 15th, 2024)

[34] Cedefop. (2022). Page 120.

In a study from 2022, the consequences of acceptance of such process in Germany brought the following declarative statement: "*In short: the implementation of validation procedures in the dual VET system touches on **fundamental questions** of how this system should be oriented and conditioned in future.*"[35]

Fundamental questions about validity, quality, sustainability and relevance of the current systems also reveal conflicts of interest within the stakeholders in existing national VET frameworks. As with any transformation, there are certain to be winning and losing parties in the process.

However, concerns that the PACE-VET validation process could threaten the current education and training systems regarding full qualifications are unwarranted. Education in VET can not only be based on ongoing "labour market needs" and IVET will not be "meaningless" in the future.[36] Nonetheless, for those with non-formal and informal learning outcomes who want to work in the sector, PACE-VET offers the only opportunity to validate and certify their competences within a quality assurance framework that employers can accept as reliable and valid. The process offers unlimited possibilities for validating developing skills and to support continuing vocational training in a skills environment that is subject to constant change.

2.1.16 How does validation relate to different credentials?

The PACE-VET certificates and credentials directly mirror candidate's learning outcomes. Content can be directly compared to the European classification for Skills, Competences, Occupations and Qualifications (ESCO) and the sector-specific microcredential units. As stated in the Cedefop study in 2023: *It is the content, not the length or size, of the credential which defines whether it can fit into a wider learning career.*[37]

The structured portfolio allows for combination and accumulation of other certificates and credentials. The assessment process ensures their validity and/or significance for the individual candidate.

2.1.17 Are there clear links to NQFs?

All learning outcomes are clearly linked to the EQF (PACE-VET: Level 4)– which in turn, allows for links to NQFs. While EU Member States and 11 other countries have committed to implementing the EQF,[38] the implementation of NQFs in Member States has not always

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[35] In: Anslinger, Eva, Husted, Bodil Lomholt, Laudenbach, Franziska, Lis, Aleksandra, Ünlühisarcikli, Özlem [Hrsg.]: (2022). Patuzzi, Mario. Germany's winding paths to the implementation of validation
Or: how to introduce a new instrument without damaging a successful system? Page 139.

[36] In: Anslinger, Eva, Husted, Bodil Lomholt, Laudenbach, Franziska, Lis, Aleksandra, Ünlühisarcikli, Özlem [Hrsg.]: (2022). Patuzzi, Mario. Germany's winding paths to the implementation of validation
Or: how to introduce a new instrument without damaging a successful system? Page 142.

[37] Cedefop. (2023). Guidelines. Page 39

[38] Europass. (2024). https://europass.europa.eu/en/europass-digital-tools/european-qualifications-framework/national-qualifications-frameworks, (accessed on October 15th, 2024)

been at a "fast pace". Successful design and implementation of NQFs requires sustained and long-term engagement.[39]

The PACE-VET project has taken a European perspective in alignment with the Articles 4(2)(a), 20, 26 and 45-48 of the Treaty on the Functioning of the European Union (TFEU). The mobility of workers within the EU is guaranteed – the validation of individual learning outcomes directly linked to the EQF within high quality assurance guidelines should be respected by all Member States.

2.1.18 Are tools reliable, valid and scalable?

When quality management is guaranteed and concurrently, the accreditation entity is fully functional, then all tools (the steps in the process) are reliable, valid and scalable. The validation of individual learning outcomes is possible and therefore, the individual can stack competences and have them documented as they go along their lifelong learning journey.[40]

2.1.19 Are validation methods fit for purpose?

All of the assessment methods used in PACE-VET are proven methods within the scientific community. They capture the "uniqueness of individual learning experiences"[41] and are congruent with the current "European guidelines for validating non-formal and informal learning". Domains of knowledge, skills and competence have been addressed (ESCO and sectoral layer). While formative assessment takes place more or less in the Identification and Documentation phases of PACE-VET, summative assessment in the Assessment phase aims at validation and certification of "learning outcomes achieved by an individual".[42] The emphasis on triangulation of assessment methods and the assessment of the portfolio contributes to reliability and validity of the assessment.

As was stated under 2.1.6., scalability and cost depend on the fundamental structure of an independent European accreditation entity and its funding.

2.1.20 What validation methodologies exist and how are they used?

A detailed overview of the validation processes for microcredential units "Lighting" and "Sound" can be found in WP. 4.2 and 4.3. and for the assessors in WP 5.1. and 5.2. Critical reflection of all methods used is embedded in the process. All methods for assessment are chosen to eliminate bias, ensure reliability and validity, increase fairness and facilitate special needs.

The PACE-VET App should make the creation of a structured portfolio for candidates much easier and worthwhile. The combination of different evidence directly linked to ESCO

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[39] ILO (2020). Page 34.
[40] Pouliou, A. (2024). Page 73.
[41] Cedefop. (2023). Guidelines. Page 48
[42] Cedefop. (2023). Guidelines. Page 48

competences should facilitate their lifelong learning and increase employment opportunities by reflecting the specific characteristics of their skills.

3. Conclusions

The validation process in PACE-VET[43] can be a very effective for validation of non-formal and informal competences bundled in microcredentials in the sector for live performance and event technicians in the EU. The process is complicated and therefore, difficult to comprehend for those coming from the typical validation of course material through examination processes as currently practiced in IVET educational institutions and guidelines. At the same time, the detail of the process – which leads to its complex structure –ensures quality in validation and certification and generally meets all the European requirements for the validation of non-formal and informal learning outcomes.

The assessor training and assessment processes carried out in the project provide sufficient proof that microcredential units (bundles) of learning outcomes can be assessed and documented. The necessary resources for assessment are currently cost-intensive. These could be greatly minimized by establishing a sufficiently financed entity to build partnerships within the sector and begin implementation. Technical advances in the availability of and outlay for extended reality assessment processes and methods could further lower costs.

The PACE-VET Application offers a multitude of possible features to empower individuals in their life-long learning journey and to support labour-market needs. In its' current release, it cannot neither offer all features nor provide the anticipated quality of user experience needed for successful implementation.

Earmarked European funding to establish an entity (ETTEC) to roll-out the process, improve the application, and monitor its use would facilitate the need for the recognition of learning outcomes in the sector acquired both inside and outside education institutions. This need was clearly recognized in the focus group discussions at the beginning of the project.

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[43] See: PACE-VET_Assessor_Handbook_Rev_1_1_en for an overview of the process (CHECK FINAL document Title!)

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Strategic Report

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