Guidelines for Development and Usage of Micro-Credentials

National Council for Vocational Education and Training (NCVET)

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Micro-Credentials

Contents

1. Introduction: What are Micro-Credentials

1.1. In today's information era where knowledge economies thrive, the process of learning is continuous and multidisciplinary with cross cutting themes. The concept of a detailed curriculum needs to be supplemented with smaller Micro units/credentials of learning that can be utilized for upskilling, reskilling and skilling a learner. These units can be used as a custom fit to the specialized qualifications for imparting training of that particular domain. These can also be used independently for Upskilling a learner where the need may arise. Micro-credentialing is the process of earning a micro-credential, which are like mini-course or certifications in a specific topic area. They can either be broad, such as 'Machine Learning,' or specific, like ' Machine learning for Predictive Analytics'.

1.2. Technology, Processes and Competencies evolve at a very fast pace in the modern interconnected world which requires continuous and seamless learning systems, and skilling through Micro- credentials is a positive step in this direction. The expiry date associated with every course can be countered through additions of such Micro units in the existing curricula or upskilling in the Micro credential on a periodic and need based basis for the skilling to stay relevant for the market. Further, where Industries/Organizations are not able to relieve the workers for more than 60 hours for a modular training/Skilling course for upskilling, the Micro-credentials will be very useful for such Industry demands. Micro-credentials are a form of micro-certification earned by proving competence in one specific skill at a time, via a portfolio of evidence, created through blended learning.

1.3. Skilling in India today is guided by the vision of our honourable Prime Minister of making India the Skills capital of the world, this requires a multidimensional approach, one of which is continuous learning which caters to the dynamic needs of the Industries at all times with changing technology. Development of Micro Credentials and their optimal utilization across various courses shall enrich the skills ecosystem further. Micro-credentials are mini qualifications that demonstrate skills, knowledge, and/or experience in a given subject area or capability. Also known as nanodegrees, micro-credentials tend to be narrower in range than traditional qualifications like diplomas or degrees.

1.4. NCVET as the unified skills regulator draws the power from **Para 16, point (f)** of the NCVET Gazette Notification **No. SD-17/113/2017-E&PW dated 5th December 2018,** to frame guidelines for the approval of qualification packages, and approve qualification packages in the manner set out in such guidelines. NCVET has been created after subsuming **erstwhile NSDA and NCVT**, the erstwhile NSDA housed the NSQC for the NSQF alignment of qualifications which is now housed with NCVET. The NSQF Gazette Notification **No. 8/6/2013-Invt Para 8, Point (ii) –b** mentions Breadth of knowledge can range from a single topic to **multi-disciplinary areas** of knowledge. The above provisions provide NCVET the mandate to formulate the guidelines on various aspects of Qualification development including **development and alignment of Micro Credentials to NSQF.**

1.5. The primary purpose of introducing **Guidelines for development of Micro Credentials for Upskilling**

1.6. is to acknowledge that new-age enterprising roles need continuous upskilling and cross sectoral skills to enable a person to perform efficiently and independently. There exists a requirement of various job roles which have components of multiple sectors for the effective execution of the job role. This in turn requires workforce   trained in multiple skills across the sectors. The skill training in these jobs will require qualifications that have learning outcomes addressing the various aspects of different sectors relevant for the job. The Credentials shall also enable imparting employability skills, digital skills, soft skills among many others.
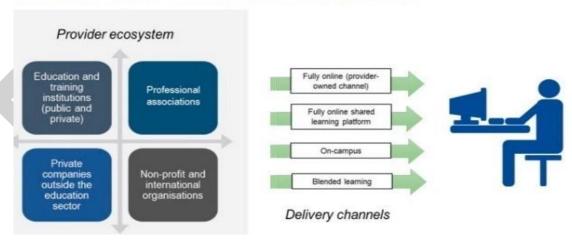
1.7. **A micro-credential** certifies achievement of a coherent set of skills and knowledge; and is specified by a statement of purpose, learning outcomes, and strong evidence of need by industry, employers, Government or the community. They are smaller than a qualification and focus on skill development opportunities not currently catered for in the regulated skilling ecosystem. They differ from traditional degrees and certificates in that they are generally offered in shorter or more flexible timespans and tend to be more narrowly focused.

Micro Credentials may be a permutation of units (performance criterias centred around identified learning outcomes) that may be developed within a sector or across sectors in a multiple of **7.5 learning hours in a learning day, these can be a set of 04 such days (30 hours) or 02 such days i.e., 15 learning hours or 01 such day i.e., 7.5 hours with a fast-track assessment that shall be carried out using Online tools/modes. However, based on the requirements the number of hours may vary.**
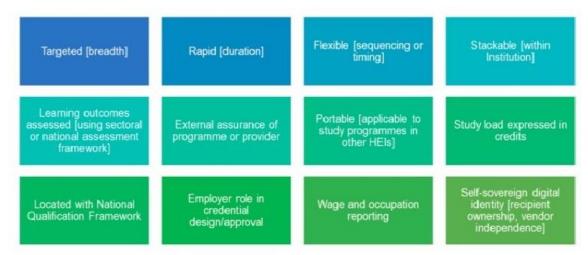
1.8. **A few examples of Micro-Credentials are as under:**
   - **Android Development:** Learn the skills necessary to begin building apps for the Android operating system. Learner may develop a basic app as part of the process.
   - **Making Strategic Decisions**: Learn how to carry through with key business strategies through effective decision making, deliberation, and delegation.
   - **Digital Payments**: Skills required to promote Digital Payments
   - **Digital marketing:** Skills for the promotion of brands to connect with potential customers using the internet and other forms of digital communication.
   - **Data Analytics**: The skills for extracting meaning from raw data for decision making using specialized computer systems.
   - **Security Processes & Data Privacy** standards/requirements of an organization/industry

Micro-credential provider ecosystem and delivery channels

Some desired characteristics of a Micro – Credential: -

Targeted [breadth]	Rapid [duration]	Flexible [sequencing or timing]	Stackable [within Institution]
Learning outcomes assessed [using sectoral or national assessment framework]	External assurance of programme or provider	Portable [applicable to study programmes in other HEIs]	Study load expressed in credits
Located with National Qualification Framework	Employer role in credential design/approval	Wage and occupation reporting	Self-sovereign digital identity [recipient ownership, vendor independence]

2. Objective/Purpose

2.1 The guidelines are structured to make **available industry ready areas of upskilling and learning in emerging areas with close industry linkage while infusing the required flexibility and instilling the best practices in the skill ecosystem**. The guidelines aim to define a mechanism of development and usage of Micro Credentials which facilitates use of already available knowledge & NOSs of different qualifications based on their ability to ensure quality and their capacity.

The broad objectives of these guidelines are as under: -

2.1.1 To define Micro credentials and outline the necessary requirements in the development and NSQF alignment of Micro Credentials.

2.1.2 Process of strapping on / adding these Mini units to the existing qualifications or using these independently for upskilling.

2.1.3 To ascertain that training and assessments are conducted in the right manner with the right assessors and trainers capable of undertaking Micro Credentials training and assessment.

2.1.4 To address the miscellaneous challenges that arise in implementation of these Micro Credentials.

2.1.5 Setup mechanism for the resolution of any issues that arise in the implementation.

2.2. Following substantiate the rationale of bringing these guidelines: -

2.2.1 **Dynamic Industry needs:** As the modern-day workplaces and industry (manufacturing, service and primary sector) requires Upskilling, Continuous Learning, Multi-Skilling & Cross-Sectoral skills, short courses for modular training will also help in addressing the current and emerging market requirements, making the industry future ready. Whether it's driven by a new market opportunity, technology or product strategy, the organization might need to draw on new skillsets not currently in the workforce. Traditional credentials can take too long to implement, or they might not provide coverage for the skill sets industry requires. The requirements of change management for example for changing processes based on industry transformation may be covered by micro-credential. Or it may be a capsule of Investor relations for a Start-up, Or

a security and data privacy guideline for an organization (which the employee has to attend on a periodic basis).

2.2.2 **Upskilling:** The Micro credentials have a large role to play in the training of learners who already possess a depth of skill and commensurate knowledge for the next level of productivity and responsibility and also the ones who require refresher training courses for enhancing the earlier skill sets. For example, there may be quick refresher on using some Government systems like GST or processes of new system such as GEM or Gati-Shakti.

2.2.3 **Learner Centrality:** The learner will benefit the most as they will have avenues for the continuous learning, cross mobility after honing multiple skill sets. Further in the age of multidisciplinary studies this will aid to overall cognitive capabilities to learn and apply the best practices of the different areas of learning. Micro-credentialing could be a way for learners to meet the demand for flexible lifelong learning. In today's workforce, employees tend to change jobs every 4.5 years and they may switch careers several times or more during their lifetime where these micro-credentials can provide a quick start in the new organisation.

2.2.4 **Focus on newer Industry skills:** Considering the newer changing requirements of the industry, with even "Digital" becoming part of some of the job roles, this concept will help in preparation of industry ready job roles. In dynamic business environments, the ability to train staff quickly to fill new, emerging skill gaps can be invaluable. Micro-credentialing offers a way to train individual staff members in specific areas quickly, so you can quickly take advantage of emerging market opportunities or respond in a timely way to technology trends. Business transformation has become a continuous process and requires adoption all across.

2.2.5 **Multi-Skill and Cross-Sectoral Skill roles**
Micro-credentialing can be a crucial tool for organizations for ensuring that staff members are sufficiently skilled for interdisciplinary roles. For example, with the rise of Digital and dependence on technology tools in various role, technology competency is required for just about any role or department in a business. Micro-credentialing allows businesses to build competencies across disciplines rapidly by delivering training programs in highly targeted subject or capability areas, without employees having to commit to long-term qualifications.

2.2.6 **Specialized skillsets**
Micro-credentials enable businesses to fill specialized skill gaps that might not be addressable with traditional credentials.

2.2.7 **Resource Optimization**
   A. **Better channelization of resources for Employer:** For the smaller businesses/ manufacturing / service units, the requirement of smaller courses which can adequately train the existing workforce can be fulfilled by micro-credentials.
   B. **Better channelization of resources for Awarding Bodies:** With the option of adopting NOSs of NSQF aligned Qualifications, the effort/ resources spent on developing similar NOSs in qualifications may be reduced, making the process more efficient and productive.

Additionally, the best of knowledge of an area/sector can be made available, without any replication of content.

    C. Better channelization of resources by Trainee: A trainee will not have to undergo multiple trainings to achieve the desired multi-skill/ cross-sectoral skill sets which otherwise would have required additional resources both in terms of time & money.

2.3 **The Guiding Principles for development of Micro Credentials for Learning and Upskilling: -**

The key guiding principles to be followed for development of Mini NOS–Micro Credentials for Learning and Upskilling along with adoption of Micro Credentials from NSQF aligned Qualifications/NOSs across various Awarding Bodies are as mentioned:

2.3.1 **High Quality**: The Awarding Body proposing the Micro credential will take the complete ownership and responsibility of End-to-End development and linkages with cross – sectoral job roles and adoption readiness of these micro-credentials. If, however, the other sector where the micro-credentials are picked as part of Multi-Skilling/Cross-Sectoral skilling also has to share responsibility of making training partners, tools & assessment agencies ready to carry out that role.

2.3.2 Micro-credentials based **adoption, integration & assessments**: An Awarding Body adopting the micro-credentials should take ownership of the "**integrated**" Qualification in its totality like quality of training delivery, fair and reliable assessment process as per the norms laid down by developer of Qualification. Based on whether it is Multi-skilling (MS) or Cross-sectoral (CS), Singular/Joint responsibility will be defined for execution of training & assessments. The responsibility shall be granted over and above the recognized sector of operation for the AB as per the Awarding Body guidelines to the extent of the application of that specific MS/CS qualification.

2.3.3 **Flexibility & Demand based Development**: It is also important to consider that some flexibility in addressing specific "local needs, integration or respective job specific needs" be provided during addition of Micro Credentials or independent trainings in these. Therefore, guidelines provide for adequate flexibility while using a NOS as per prescribed norms. The flexibility micro-credentials offer to organizations and their training programs can be extremely valuable.

3. Scope of the Guidelines

3.1   These guidelines permit all NCVET recognized Awarding Bodies to develop Micro Credentials which shall be NSQF aligned in accordance with the prescribed norms listed as under: -

    3.1.1 *Sectoral:* Industry validation and establishing the demand of Micro Credentials requirement is a must for creating such credentials. However the industry validations required in this case are lower than required for a complete qualification.

3.1.2 *Territorial*: Micro Credentials shall be permitted only in the territory for which an Awarding Body has already been recognized by NCVET. (However, in deserving cases NCVET reserves the discretion of expanding the territory of implementation)

3.1.3 *Qualification*: Micro Credentials of all kinds, which are currently actively NSQF aligned and approved or are being considered for approval in NSQC shall form a part of the scope of these guidelines.

3.1.4 *Nature:* Categorization as **Public/Private** Micro credential. The Private Micro-credentials shall be the ones with restricted access and where formal adoption is required. These are typically organization's IPR and can be adopted or shared only after appropriate permissions. Whereas Public Micro-credentials shall be the ones with open access and can be used across by industry/ organization in their NOSs/ qualification or a standalone module. They are like Open Software Code which do not need any licence.

3.1.5 *Adoption:* Micro Credentials developed by Awarding Bodies shall be available for adoption to other recognized Awarding Bodies also. **The adopting Awarding body may want to add an integrating module if required to meet the Cross-Sectoral requirement**.

3.1.6 **Assessment Process:** Since not too much hand-skills are covered as part of training of micro-credentials, it is proposed to **have online assessment process**, if possible, of the micro-credentials. The **blended learning guidelines** may be appropriately used for the assessment based on the subject/ topic. The micro-credentials may have built-in **formative assessment**, for a better understanding.

4. Operational Mechanism

The following operational mechanism shall be followed for Micro Credentials: -

4.1.1 **Capacity:** The developing/ owner Awarding Body will have to additionally establish its capacity and capability in terms of training, assessment and related aspects of the Micro Credentials that it develops and are being adopted. The capacity needs to be established in terms of each Performance Criteria that needs to be demonstrated for attaining the required learning outcome at a given level.

4.1.2 **At the stage of adopting a micro-credentials** from same/ different sector the micro-credentials may be adopted without altering the basic structures like eligibility criteria, NSQF level, notional hours, Learning outcomes, accreditation, and assessment norms (for the qualification), review date and list of tools & equipment etc. However, keeping in mind **'flexibility' to the extent of a total of 20%,** as one of the guiding principles of *Adoption*, minor modifications to address the local or job specific requirements are permitted. For example, there may be information security 'Public' micro credential, which the industry adopts and may want to add their organization specific requirements of security guidelines in the micro-credentials.

- There shall be **no deletion/ curtailment of the mandatory component** (PCs/ LOs) of the micro-credentials (exception where

multi-skilling is leading to repetition /duplication). **Addition of up to 10% shall be allowed in the mandatory component** of the qualification which would be counted in terms of notional hours. If the qualification does not mention mandatory Learning Outcomes, NCVET in consultation with the Developer Body shall decide the mandatory components of the micro-credentials.

- **An overall modification of 20% in the micro-credentials** shall be permitted in the process of integrating the micro-credentials in the qualifications.
- **A Micro Credential** shall be available for adoption across Awarding Bodies

4.1.3 **Development of a Micro Credential: -**

The following may be the guiding principles for developing such Micro Credentials: -

4.1.3.1 **Strong evidence of need:** Established Industry demand for creation of such Micro Credentials with established need and commensurate career progression in such areas.

- A clear evidence of need must be established with **at least 5 Industry validations for a new Micro- Credential, for the one comprising of a future skill this may be 2 Industry validations.**

4.1.3.2 **Notional hours** shall be a multiple of **7.5 learning hours in a learning day, the following are some examples: -**

Type	No. of days	No. of Learning hours	No. of NOSs
Micro Credential 1	01	7.5 (+0.5-hour assessment)	0.25
Micro Credential 2	02	15 (+1-hour assessment)	0.5
Micro Credential 3	03	22.5 (+1.5-hour assessment)	0.75
Micro Credential 4	04	30 (+2-hour assessment)	1.00

4.1.3.3 Each Micro-Credential further made up of Performance Criteria (PCs) **shall define functions, standards of performance and knowledge / understanding** for the particular function/skill it intends to offer. Each Micro-Credential through enlisted **Performance PCs** will specify the standard of performance an individual must achieve when carrying out a function in the workplace, together with the knowledge and understanding they need to meet a standard consistently.

4.1.3.4 The **training pedagogy** needs to be established in terms of **Theory, Practical and OJT** which the candidate shall undertake for his/her learning. The **training equipment** needs to be specified for the credential.

4.1.3.5 Each Micro-credential shall clearly define the **assessment strategy, assessment criteria against PCs, assessment tools** that shall be utilised for the assessment of the candidate in a holistic manner.

4.1.3.6 The **Assessments** of Micro- credentials may **preferably be totally online** with varying type of questions depending on the strategy and type of Micro-

credential. The assessment process may follow the blended learning guidelines.

4.1.3.7 The Micro-credentials shall be in the multiple of **7.5 notional hours** of learning to adhere with the National credit framework.

4.1.3.8 The entry requirements, levels and commensurate notional hours shall be as per the **standardisation framework of NSQF** qualifications established by NCVET.

4.1.3.9 The Micro-Credential must clearly define any **statutory and licensing requirements** if applicable to the sector and the function.

4.1.3.10 **Listing of horizontal and vertical NOSs/Micro credentials and qualifications across sectors** that a learner may undertake post the attainment of this micro credential. Each Micro credential shall empower the learner to learn new horizontal and vertical NOSs/credentials.

4.1.3.11 Each Micro Credential **must be a concise and readable document**, as a combination of PCs usually consisting of no more than five or six pages.

4.1.3.12 The Micro Credentials will be utilised as: -
- **Independent units** of learning with separate course curriculum.
- In combination with **existing Qualifications** from the same sector.
- As a part of learning unit of the **Multi-Sectoral/Cross-Sectoral Qualifications via adoption.**

4.1.4 **Training Implementation of Micro Credentials:**
- NCVET guidelines on **Blended learning** with focus on both offline and online modes simultaneously shall provide various alternatives for offering the Micro credentials to prospective learners many of whom shall be existing employees in various organizations. However, it is suggested to create on-line content for the micro-credentials, to the extent possible, to increase its reach
- The training shall be imparted as is done for the NSQF aligned qualifications with an empanelled training partner who has established the capacity to train in the area/sector of the Micro credential.
- The training centres which shall be equipped to run the Multi-Skill and Cross-Sectoral skills shall be jointly identified by the sectors involved where Micro Credentials are adopted for Multi-skilling or Cross-sectoral (MS/CS) qualifications.

4.1.5 **Issue of Certificate**: The **Micro Credential** certificate shall be issued by the respective Awarding Body and will be as per the NCVET guidelines on certificates.

5. Monitoring

5.1 **The NCVET shall perform the annual performance review of the Micro Credentials** usage in terms of training done, placements done and other related aspects as per the standard process either by itself or through a third party at the cost to be shared by various Recognized bodies. The quality checks will be done for each individual Micro Credential adopted by any entity in the ecosystem.

5.2 In case, NCVET so desires, it may opt for site visit as part of review. The council may also ask for any information pertaining to the **Micro Credentials** as per the provisions of NCVET notification.

5.3 The rights may be withdrawn by NCVET w.r.t **Micro Credentials** which are found to be non-active during the annual review. Any **Micro Credential** which zero/ minimum training followed by no assessment and certification has been registered/ recorded over the period of one year shall be considered as non-active.

5.4 The Guidelines on monitoring by NCVET shall be followed.

6. Summary & Conclusion

The need of Micro-Credentials was given by Industry and these guidelines may change dynamically based on the dynamic/changing needs. The following table summarises the differences between Micro-Credentials, NOSs & Qualifications:

	Micro-Credentials	NOSs	Qualifications
Utilization	Upskilling	Upskilling, Bridge courses, Skilling	Upskilling, Reskilling, Skilling
No of Hours	Ideally in Multiple of 7.5 Can be of 15, 22.5 or up to 30 hours	• Standard – In multiple of 30 hours • Special Requirement – In multiple of 15 hours	Multiple of 30 From 150 to 1200 hours

Types	a) Public: Available for adoption by anyone
	b) Private: Open Curriculum Content IPR with AB/Industry Body
		1. Applicability wise:
		    a) Generic
		    b) Domain
		2. Structure wise:
		    a) Mandatory
		    b) Optional
		3. Approval wise:
		    a) Standalone	

		b) NOS as part of qualification	
Industry Validations	5 for Public Micro-Credentials 1 for Private (2 for future Skills)	• Concern industry ⎤ WIP • Concern academia ⎦	30 (5 for future Skills)
Levels	Can come at all levels Will be same as the entry level. However, it is suggested to create less than 15 hours courses only for level 6 and above	Possible at all levels	Possible at all levels (1-8)
Suggested Delivery Mechanism	Preferably on-line	As per Blended guidelines	As per Blended guidelines
Suggested Assessment Methodology	Preferably on-line	As per Blended guidelines	As per Blended guidelines

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