ENHANCE
European Universities
of Technology
Alliance

WP2	
D21, D2.5	template for micro-credentials, ENHANCE Certificate and Labels

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Template for ENHANCE micro-credentials

Executive summary

Micro-credentials are an essential part of the ENHANCE joint educational offer. They are viewed as a means to make it more flexible and attractive, not only to traditional students, pursuing bachelor, master or doctoral degree programmes, but also to various groups of life-long learners..

For our traditional students, micro-credentials will create the opportunity to gain additional formally certified competencies, which will frequently be beyond their major field of study. In particular, we are planning to award micro-credentials for service to society based learning activities, such as supporting elderly people in dealing with digital transformation. Taking short courses and other forms of education offered by the Alliance universities in virtual or blended learning format resulting in micro-credentials can also be seen as the measure to customise student education pathways. It can also provide students with international experience to move towards 100% (physical, hybrid or virtual) mobility objective.

By offering micro-credentials we would also like to attract various groups of non-traditional students. It is our intention to address the needs of life-long learners seeking professional development through changing or updating their skills portfolio and actively engaging with new technologies. We also aim to address the needs of those learners who wish to enhance their personal competencies and the needs of various groups of disadvantaged learners who otherwise would not be able to enter the university community. Therefore, offering various short-term forms of learning certified by micro-credentials would be a way to respond to the needs of society and a part of our societal mission.

The ENHANCE micro-credentials will be developed jointly with partners from industry, local governments and non-profit organizations, so that to meet the needs of various stakeholders, The micro-credentials will initially be offered as certified courses or groups of courses focusing on specific issues relevant to the mission of the Alliance: digital transformation, transformation for the green economy etc. However, their format and thematic scope will be gradually extended based on our gained experience.

With a wide spectrum of micro-credentials intended for different target groups, we need a joint micro-credentials framework – the systematic description of concepts, rules, procedures and processes related to micro-credentials, developed and implemented at the ENHANCE universities. We assume that this framework will be applicable not only to jointly developed ENHANCE micro-credentials (defined in the ENHANCE proposal, and other ones to be developed within the initial 3-year project period and in the future), but also – at least to some extent – to the existing and planned short-term forms of education offered by each Alliance university,

The essential part of the ENHANCE micro-credentials framework and the subject of this report is the ENHANCE micro-credential template – the precisely defined list of critical information elements that describe a micro-credential. The proposed structure of information in the ENHANCE micro-credentials template follows the EU standard for constitutive elements of micro-credentials presented in December 2020 by the European Commission Consultation Group. According to this standard, the description of a micro-credential will contain the following elements with some of them, marked with an asterisk (*), being optional:
- identification of the learner,
- title of the micro-credential,

- country of the issuer,
- awarding body,
- date of issuing,
- notional workload needed to achieve the learning outcomes (in ECTS),
- level of the learning experience leading to the micro-credential (EQF level),
- learning outcomes,
- form of participation in the learning activity,
- prerequisites* needed to enrol in the learning activity,
- type of assessment,
- supervision and identity verification during assessment*,
- quality assurance of the credential and, where relevant, of the learning content,
- grade achieved*,
- integration/stackability options*,
- further information*.

In the report, these elements are described in detail and interpreted in the context of the ENHANCE micro-credentials framework.

The key component of the ENHANCE micro-credentials framework, necessary to develop the micro-credentials template, is the micro-credentials typology. This typology defines the types of micro-credentials and for each type specifies its name and its basic characteristics that include:
- profile (focus/orientation of learning outcomes and content),
- primary target group (traditional students, life-long learners),
- typical forms of learning activity (course/group of courses, special purpose MOOC(s), summer schools etc.),
- quality assurance mechanisms, including methods for assessment of learning outcomes,
- specification of the workload (whether or not the number of ECTS points is given and, if so, the range of ECTS points that can be assigned),
- specification of the level (whether or not the reference/assignment to the EQF level is given),
- stackability (whether or not it may be combined into larger credentials or qualifications).

In the proposed typology of ENHANCE micro-credentials, there are two basic groups of micro-credentials:
- certificates.
- badges.
In this way we distinguish between ECTS-bearing micro-credentials with the rigid quality assurance which includes thorough formal assessment of learning outcomes (certificates), and the other type of micro-credentials (badges).

There are two subcategories of ENHANCE certificates:
- certificates of academic achievement, with their learning outcomes and content, comprising an essential component of knowledge, focused on specific (sub)area/discipline of engineering or transdisciplinary competences; such certificates are primarily intended for traditional bachelor, master of doctoral students,
- certificates of specialisation/professional achievement, with their learning outcomes and content focused on application of knowledge and/or development of skills in some (sub)area/discipline relevant for the labour market or professional development/career; such certificates are primarily intended for life-long learners who want to change their skills portfolio to increase their competitiveness in the labour market.
The certificates of both subcategories are assigned ECTS points and EQF level; some of them are stackable which means that they can be recognised as the components of larger credentials.

Unlike certificates, badges can be awarded with rather non-formal methods of assessment of learning outcomes or even based on participation in learning activities. They are not assigned ECTS points or EQF level and are, in general, non-stackable.

As in the case of certificates, there are two subcategories of ENHANCE badges:
- badges of achievement which are based on a wide spectrum of education provision open to general public (traditional and non-traditional students of all age groups); this can include some courses developed for the purpose of degree programmes or continuing education, made available (usually in the form of MOOCs) to other learners with no credit awarded, but also special offerings that respond to the needs of various groups of society (secondary school students, senior citizens etc.),
- badges awarded for service-based learning and volunteering, offered primarily to traditional students for their work for the benefit of local communities or society at large..

Different forms of learning activities that could lead to an ENHANCE micro-credential (both certificates and badges) are envisioned. These forms can be classified with regard to:
- the mode of delivery (on-site/on-campus, on-line, blended, hybrid),
- organisation of the learning activity (course(s), in particular, MOOC(s), training session, workshop, summer school, service-based learning, volunteering etc.).

Anticipating numerous problems similar to those encountered when joint degrees/diplomas are issued by institutions from different countries, we have decided that micro-credentials will be awarded by individual universities – members of the ENHANCE Alliance on behalf of the Alliance. This means that the certification document will be signed by an eligible person from the relevant university and both the logo of that university and the logo of the ENHANCE Alliance will appear on the printed version of the document.

The publication of this report in July 2021 does not end the work on the ENHANCE micro-credentials template. The template will likely be adjusted to the developments taking place in the coming months and years and taking into account in particular:
- the initiatives of institutions of the European Union and developments taking place within the European Higher Education Area,
- the further consultation with external stakeholders, including associated partners,
- the implementation issues (other activities within WP2.2),
- the experience with application of the proposed template to ENHANCE micro-credentials being developed in 2021-2023,
- the experience with application of the micro-credentials framework, including the proposed template, to various forms of short-term education provision (MOOCs, short programmes etc.) offered individually by the Alliance universities (currently and in the near future).

Vorlage für ENHANCE-Microcredentials

Kurzdarstellung

Microcredentials sind ein wesentlicher Bestandteil des gemeinsamen Bildungsangebots von ENHANCE. Sie werden als Mittel gesehen, das Studium flexibler und attraktiver zu gestalten, nicht nur für traditionelle Studierende in Bachelor-, Master- oder Promotionsstudiengängen, sondern auch für verschiedene Gruppen von lebenslang Lernenden.

Für unsere traditionellen Studierenden schaffen Microcredentials die Möglichkeit, zusätzliche formal zertifizierte Kompetenzen zu erwerben, die häufig außerhalb ihres Hauptstudiengebiets liegen. Insbesondere planen wir, Microcredentials für gesellschaftlich orientierte Lernaktivitäten zu vergeben, wie zum Beispiel die Unterstützung älterer Menschen im Umgang mit dem digitalen Wandel. Das Absolvieren von Fachkursen und anderen Bildungsformen, die von den Universitäten der Allianz im virtuellen oder Blended-Learning-Format angeboten werden und zum Erwerb von Microcredentials führen, kann auch als Möglichkeit zur Individualisierung studentischer Bildungswege gesehen werden. Zudem kann es den Studierenden internationale Erfahrungen vermitteln, um so dem Ziel einer 100%-igen (physischen, hybriden oder virtuellen) Mobilität näher zu kommen.

Durch das Angebot von Microcredentials möchten wir auch verschiedene Gruppen nicht-traditioneller Studierender ansprechen. Es ist unsere Absicht, auf die Bedürfnisse von lebenslang Lernenden einzugehen, die eine berufliche Entwicklung durch eine Änderung oder Aktualisierung ihres Kompetenzportfolios anstreben und sich aktiv mit neuen Technologien auseinandersetzen. Wir wollen auch die Bedürfnisse derjenigen Lernenden ansprechen, die ihre persönlichen Kompetenzen verbessern wollen, sowie die Bedürfnisse verschiedener Gruppen benachteiligter Lernender, denen ein Zugang zur Hochschulgemeinschaft sonst nicht möglich wäre. Das Angebot verschiedener zeitlich kurzer Lernformen, die durch Microcredentials zertifiziert werden, wäre daher eine Möglichkeit, auf die Bedürfnisse der Gesellschaft zu reagieren und Teil unserer gesellschaftlichen Aufgabe.

Die Microcredentials im Rahmen von ENHANCE werden gemeinsam mit Partnern aus Industrie, Kommunalverwaltungen und Non-Profit-Organisationen entwickelt, um den Bedürfnissen der verschiedenen Interessengruppen gerecht zu werden. Die Microcredentials werden zunächst als zertifizierte Kurse oder Kursreihen angeboten, die sich auf spezifische Themen konzentrieren, die für die Zielsetzung der Allianz relevant sind: digitaler Wandel, Wandel zu einer grünen Wirtschaft usw. Ihr Format und ihr thematischer Umfang werden jedoch auf der Grundlage der gewonnenen Erfahrungen schrittweise erweitert.

Angesichts einer großen Bandbreite an Microcredentials, die sich an unterschiedliche Zielgruppen richten, benötigen wir gemeinsame Rahmenbedingungen für Microcredentials - die systematische Beschreibung von Konzepten, Regeln, Vorgehensweisen und Abläufen im Zusammenhang mit Microcredentials, die an den ENHANCE-Hochschulen entwickelt und umgesetzt werden. Wir gehen davon aus, dass diese Rahmenbedingungen nicht nur für die gemeinsam entwickelten ENHANCE-Microcredentials (im ENHANCE-Antrag definierte und weitere, innerhalb der anfänglichen Projektlaufzeit von drei Jahren und in der Zukunft entwickelte Angebote) gelten werden, sondern auch - zumindest in gewissem Umfang - für die bestehenden und geplanten kurzen Bildungsangebote der einzelnen Allianz-Hochschulen.

Der wesentliche Bestandteil der Rahmenbedingungen für die ENHANCE-Microcredentials und Gegenstand dieses Berichts ist die Vorlage für ENHANCE-Microcredentials - die genau definierte Liste entscheidender Informationselemente, die einen Microcredential beschreiben.

Die vorgeschlagene Struktur der Informationen in der Vorlage für ENHANCE-Microcredentials folgt dem EU-Standard für grundlegende Elemente von Microcredentials, der im Dezember 2020 durch die Expertengruppe der Europäischen Kommission vorgestellt wurde. Nach diesem Standard enthält die Beschreibung eines Microcredentials die folgenden Elemente. Einige dieser Elemente - mit einem Sternchen (*) gekennzeichnet - sind optional:
- Identifikation des Lernenden,
- Titel des Microcredentials,
- Land des Ausstellenden,
- vergebende Stelle,
- Datum der Ausstellung,
- angenommenes Arbeitspensum, das zum Erreichen der Lernergebnisse erforderlich ist (in ECTS),
- Niveau der Lernerfahrung, die zu dem Microcredential führt (EQR-Niveau),
- Lernergebnisse,
- Form der Teilnahme an der Bildungsmaßnahme,
- für die Teilnahme an der Bildungsmaßnahme zu erfüllende Voraussetzungen*,
- Art der Prüfung,
- Aufsicht und Identitätsüberprüfung während der Prüfung*,
- Qualitätssicherung des Leistungsnachweises und ggf. der Lerninhalte,
- erreichte Note*,
- Möglichkeiten der Integration/Anrechenbarkeit*,
- weitere Informationen*.

Im Bericht werden diese Elemente detailliert beschrieben und im Kontext der Rahmenbedingungen für ENHANCE-Microcredentials interpretiert.

Das Schlüsselelement der Rahmenbedingungen für ENHANCE-Microcredentials, die für die Entwicklung der Vorlage für Microcredentials erforderlich ist, ist die Typologie der Microcredentials. Diese Typologie definiert die Typen von Microcredentials und bestimmt für jeden Typ Namen und grundlegende Eigenschaften, die Folgendes umfassen:
- Profil (Fokus/Ausrichtung von Lernergebnissen und Inhalten),
- primäre Zielgruppe (traditionelle Studierende, lebenslang Lernende)
- typische Formen der Bildungsmaßnahme (Kurs/Kursreihen, MOOC(s) mit spezieller Ausrichtung, Summer Schools usw.),
- Mechanismen zur Qualitätssicherung, einschließlich Methoden zur Bewertung der Lernergebnisse,
- Festlegung des Arbeitspensums (ob die Anzahl der ECTS-Punkte vergeben wird und, falls ja, die Spanne der ECTS-Punkte, die vergeben werden können),
- Festlegung des Niveaus (ob der Bezug/die Zuordnung zum EQR-Niveau angegeben wird oder nicht),
- Anrechenbarkeit (ob zu größeren Leistungsnachweisen oder Qualifikationen kombiniert werden kann).

In der vorgeschlagenen Typologie von ENHANCE-Microcredentials gibt es zwei Hauptgruppen von Microcredentials:
- Zertifikate.
- Badges.
Auf diese Weise unterscheiden wir zwischen mit ECTS-Punkten bewerteten Microcredentials mit strenger Qualitätssicherung, zu der auch die sorgfältige formale Bewertung der Lernergebnisse gehört (Zertifikate), und dem anderen Typ von Microcredentials (Badges).

Es gibt zwei Untergruppen von ENHANCE-Zertifikaten:
- akademische Leistungsbescheinigungen, die mit ihren Lernergebnissen und Inhalten einen wesentlichen Wissensbaustein umfassen, der sich auf einen bestimmten (Teil-)Bereich/Studiengebiet des Ingenieurwesens oder transdisziplinäre Kompetenzen

konzentriert; solche Zertifikate sind in erster Linie für traditionelle Bachelor-, Master- oder Promotionsstudierende gedacht,
- Zertifikate über eine Spezialisierung/berufliche Leistung, deren Lernergebnisse und Inhalte sich auf die Anwendung von Wissen und/oder die Entwicklung von Fähigkeiten in einem (Teil-)Bereich/Studiengebiet konzentrieren, die für den Arbeitsmarkt oder die berufliche Entwicklung/Karriere relevant sind; solche Zertifikate sind in erster Linie für lebenslang Lernende gedacht, die das Portfolio ihrer Qualifikationen erweitern wollen, um ihre Wettbewerbsfähigkeit auf dem Arbeitsmarkt zu erhöhen.

Den Zertifikaten beider Unterkategorien sind ECTS-Punkte und ein EQR-Niveau zugeordnet; einige von ihnen sind anrechenbar, sie können also als Bestandteile umfassenderer Zeugnisse anerkannt werden.

Im Gegensatz zu Zertifikaten können Badges mit eher nicht-formalen Methoden der Bewertung von Lernergebnissen oder sogar basierend auf der Teilnahme an Bildungsmaßnahmen vergeben werden. Ihnen werden keine ECTS-Punkte oder EQF-Niveaus zugeordnet und sie sind in der Regel nicht anrechenbar.

Wie bei den Zertifikaten gibt es auch bei den ENHANCE-Badges zwei Untergruppen:
- Leistungs-Badges für eine große Bandbreite an Bildungsangeboten, die der Allgemeinheit (traditionellen und nicht-traditionellen Studierenden aller Altersgruppen) offenstehen. Dies können Kurse sein, die für Studiengänge oder Weiterbildungen entwickelt wurden und die (meist in Form von MOOCs) anderen Lernenden zur Verfügung gestellt werden, ohne dass dafür Leistungspunkte vergeben werden, aber auch spezielle Angebote, die sich an den Bedürfnissen verschiedener gesellschaftlicher Gruppen orientieren (Sekundarschüler*innen, Senior*innen etc.),
- Badges, die für serviceorientiertes Lernen und ehrenamtliche Arbeit vergeben werden und in erster Linie traditionellen Studierenden für ihre Arbeit zum Wohle des lokalen Gemeinwesens oder der Gesellschaft allgemein angeboten werden.

Es sind verschiedene Formen von Bildungsmaßnahmen vorgesehen, die zu ENHANCE-Microcredentials (sowohl Zertifikate als auch Badges) führen könnten. Diese Formen können kategorisiert werden in Bezug auf:
- die Art der Bereitstellung (vor Ort/auf dem Campus, online, Blended Learning, hybrid),
- die Organisation der Bildungsmaßnahme (Kurs(e), insbesondere MOOC(s), Training, Workshop, Summer School, serviceorientiertes Lernen, ehrenamtliche Arbeit usw.).

In Erwartung zahlreicher Probleme, ähnlich denen, die auftreten, wenn gemeinsame Abschlüsse/Diplome von Institutionen aus verschiedenen Ländern ausgestellt werden, haben wir beschlossen, dass die Microcredentials von einzelnen Hochschulen - Mitgliedern der ENHANCE-Allianz - im Namen der Allianz vergeben werden. Das Zertifizierungsdokument wird daher von einer berechtigten Person der jeweiligen Hochschule unterzeichnet und sowohl das Logo dieser Hochschule als auch das Logo der ENHANCE Allianz erscheinen auf der gedruckten Version des Dokuments.

Mit der Veröffentlichung dieses Berichts im Juli 2021 ist die Arbeit an der Vorlage für ENHANCE-Microcredentials nicht abgeschlossen. Voraussichtlich erfolgt eine Anpassung der Vorlage an die Entwicklungen der kommenden Monate und Jahre, wobei insbesondere Folgendes berücksichtigt wird:
- die Initiativen der Einrichtungen und Institutionen der Europäischen Union und die innerhalb des Europäischen Hochschulraums stattfindenden Entwicklungen,
- die weitere Beratung mit externen Interessengruppen, einschließlich beteiligter Partner,
- die Fragen der Umsetzung (andere Aktivitäten innerhalb von WP2.2),
- die Erfahrungen mit der Anwendung der vorgeschlagenen Vorlage auf ENHANCE-Microcredentials, die in den Jahren 2021-2023 entwickelt werden,
- die Erfahrungen mit der Anwendung der Rahmenbedingungen für Microcredentials, einschließlich der vorgeschlagenen Vorlage, auf verschiedene Formen von zeitlich

kurzen Bildungsangeboten (MOOCs, Kurzprogramme usw.), die von den Hochschulen der Allianz individuell angeboten werden (derzeit und in naher Zukunft).

Modello di microcredenziali ENHANCE

Sintesi

Le microcredenziali costituiscono una parte essenziale dell'offerta formativa congiunta ENHANCE. Sono concepite come strumento per accrescerne la flessibilità e attrattività, non solo per gli studenti interessati a programmi di laurea, master o dottorato, ma anche per vari gruppi di discenti orientati alla formazione continua.

Ai nostri studenti, le microcredenziali offrono l'opportunità di acquisire ulteriori competenze formalmente certificate che spesso vanno oltre il principale ambito di studio. In particolare, è in fase di pianificazione l'assegnazione di microcredenziali per attività di apprendimento nell'ambito dei servizi alla società, come il sostegno agli anziani nel far fronte alla trasformazione digitale. Corsi brevi e altre modalità di apprendimento proposti dalle università dell'Alleanza in forma virtuale o di blended learning con il conseguimento di microcredenziali costituiscono ulteriori strumenti di personalizzazione dei percorsi di formazione degli studenti. Tramite le microcredenziali sarà quindi possibile offrire un'ulteriore esperienza internazionale valevole al raggiungimento dell'obiettivo della mobilità al 100% (fisica, ibrida o virtuale), ossia permettere alla totalità dei nostri studenti di poter effettuare un'esperienza di mobilità.

Mediante la proposta di microcredenziali intendiamo inoltre attrarre diversi gruppi di discenti. Il nostro obiettivo è rispondere alle esigenze di studenti in formazione continua mediante l'ampliamento o l'aggiornamento del portafoglio di competenze e il confronto attivo con le nuove tecnologie. Puntiamo inoltre a soddisfare i bisogni di studenti che desiderano migliorare le loro competenze personali e dei gruppi di studenti svantaggiati che non sarebbero altrimenti in grado di entrare a far parte della comunità universitaria. Pertanto, l'offerta di brevi esperienze di apprendimento certificate da microcredenziali va incontro a bisogni presenti nella società ed è parte della nostra mission.

Le microcredenziali ENHANCE saranno sviluppate congiuntamente con partner industriali, amministrazioni locali e organizzazioni non profit, in modo da soddisfare le esigenze dei vari stakeholder. Inizialmente verranno proposte come corsi certificati o gruppi di corsi incentrati su temi specifici rilevanti per la mission dell'Alleanza: trasformazione digitale, trasformazione per la green economy ecc. Il formato e l'ambito tematico verranno gradualmente ampliati in base all'esperienza acquisita.

Con un ampio spettro di microcredenziali destinate a diversi gruppi target, si impone la definizione di un quadro di riferimento, un framework comune, che descriva in maniera sistematica concetti, regole, procedure e processi correlati alle microcredenziali, sviluppati e implementati nelle università ENHANCE. Secondo le nostre ipotesi, tale quadro sarà applicabile non solo alle microcredenziali ENHANCE sviluppate congiuntamente (già definite nella proposta ENHANCE e a cui se ne aggiungeranno altre nel triennio iniziale del progetto e in futuro), ma anche – almeno in una certa misura – alle brevi esperienze di apprendimento esistenti e pianificate da ciascuna università dell'Alleanza.

Parte essenziale del quadro di riferimento delle microcredenziali ENHANCE, che costituisce l'oggetto del presente report, è il modello di microcredenziale ENHANCE – ossia l'elenco dettagliato delle informazioni essenziali che descrivono una microcredenziale. La struttura delle informazioni proposta nel modello ENHANCE si attiene allo standard UE sugli elementi costitutivi delle microcredenziali, presentato nel dicembre 2020 dal gruppo di consultazione della Commissione europea. Secondo tale standard, la descrizione di una microcredenziale contiene i seguenti elementi, alcuni dei quali facoltativi (contrassegnati da un asterisco*):

- identificazione del discente,
- titolo della microcredenziale,
- Paese sede dell'ente che rilascia il titolo
- ente che rilascia il titolo
- data di rilascio
- carico di lavoro teorico necessario per l'ottenimento dei risultati di apprendimento (in CFU),
- livello dell'esperienza di apprendimento che determina il conseguimento della microcredenziale (livello EQF),
- risultati di apprendimento,
- modalità di partecipazione all'attività di apprendimento,
- prerequisiti* necessari per l'iscrizione all'attività di apprendimento,
- tipo di valutazione,
- supervisione e verifica dell'identità durante la valutazione*,
- assicurazione qualità della credenziale e, se rilevante, del contenuto di apprendimento,
- livello raggiunto*,
- opzioni di integrazione/cumulabilità*,
- ulteriori informazioni*.

Nel report, tali elementi sono descritti dettagliatamente e interpretati nel contesto del quadro di riferimento delle microcredenziali ENHANCE precedentemente illustrato.

La componente chiave di tale quadro riferimento, necessaria per lo sviluppo del modello di microcredenziale, è la rispettiva tipologia, che ne definisce il nome e ne descrive le caratteristiche fondamentali. Tali caratteristiche includono:
- profilo (focus/orientamento dei risultati di apprendimento e del contenuto),
- gruppo target primario (studenti tradizionali, discenti in formazione continua),
- forme tipiche di attività di apprendimento (corso/gruppo di corsi, MOOC a scopo speciale, scuole estive ecc.),
- meccanismi di assicurazione della qualità, inclusi i metodi di valutazione dei risultati di apprendimento,
- specifica del carico di lavoro (con attribuzione o meno del numero di punti CFU e, in caso affermativo, range di punti CFU attribuibili),
- specifica del livello (con attribuzione o meno del riferimento/assegnazione al livello EQF),
- cumulabilità (possibilità o meno di integrazione nell'ambito di credenziali o qualifiche più ampie).

La proposta è di raggruppare le microcredenziali ENHANCE secondo due principali tipologie
- certificati
- badge
Si distingue pertanto tra le microcredenziali con CFU e rigida assicurazione di qualità, comprensiva di valutazione formale approfondita dei risultati di apprendimento (certificati), e l'altro tipo di microcredenziali (badge).

Sono previste due sottocategorie di certificati ENHANCE:
- certificati di rendimento accademico, con i rispettivi risultati di apprendimento e contenuti, che comprendono una componente essenziale di conoscenze, focalizzata su specifiche (sotto)aree/discipline di ingegneria o competenze transdisciplinari; tali certificati sono principalmente destinati a studenti tradizionali in corsi di laurea, master o dottorato,
- certificati di specializzazione/rendimento professionale, con i rispettivi risultati di apprendimento e contenuti focalizzati sull'applicazione delle conoscenze e/o lo sviluppo delle abilità in alcune (sotto)aree/discipline rilevanti per il mercato del lavoro o per lo sviluppo professionale/carriera; tali certificati sono principalmente rivolti a discenti in formazione continua che intendono variare il portafoglio di competenze per assicurarsi una maggiore competitività sul mercato del lavoro.

Ai certificati di entrambe le sottocategorie vengono assegnati punti CFU e livello EQF; alcuni di essi sono cumulabili, il che significa che possono essere riconosciuti come componenti di credenziali più ampie.

A differenza dei certificati, i badge possono essere assegnati con metodi informali di valutazione dei risultati di apprendimento o anche sulla base della partecipazione alle attività di apprendimento. Non vengono assegnati punti CFU e livello EQF e, in generale, non sono cumulabili.

Come per i certificati, sono previste due sottocategorie di badge ENHANCE:
- badge di rendimento che si basano su un'offerta formativa di ampio spettro e aperta al pubblico in generale (studenti tradizionali e non, di tutte le fasce d'età); ciò include corsi sviluppati ai fini dei programmi di laurea o di formazione continua, resi disponibili (di solito sotto forma di MOOC) ad altri studenti senza assegnazione di crediti, ma anche offerte educative speciali che rispondono ai bisogni di vari gruppi della società (studenti della scuola secondaria, terza età, ecc.),
- badge conferiti per l'apprendimento basato su attività di utilità sociale e/o di volontariato, offerti principalmente a studenti tradizionali per l'impegno a favore delle comunità locali o della società in generale.

Sono previste diverse forme di attività di apprendimento, da cui può conseguire l'attribuzione di microcredenziali ENHANCE (sia certificati che badge), classificabili in base a:
- modalità di erogazione (sul posto/campus, online, mista, ibrida),
- organizzazione dell'attività di apprendimento (corso(i), in particolare, MOOC, sessione di formazione, workshop, scuola estiva, apprendimento orientato al servizio, volontariato ecc.).

In previsione dell'insorgere di alcuni problemi, analoghi a quelli affrontati nel caso del rilascio di lauree/diplomi congiunti da parte di istituzioni di diversi Paesi, si è deciso che le microcredenziali saranno certificate, per conto dell'Alleanza, dalle singole università che ne fanno parte. Ciò significa che il documento di certificazione sarà firmato da una persona idonea della rispettiva università e sulla versione stampata del documento sarà apposto sia il logo dell'università che il logo ENHANCE.

La pubblicazione del presente report nel luglio 2021 non costituisce la conclusione dell'attività di elaborazione del modello di microcredenziali ENHANCE, che continuerà ad essere aggiornato in base agli sviluppi nei mesi e negli anni a venire, con particolare attenzione a:
- iniziative delle istituzioni dell'Unione europea ed evoluzione nell'ambito della formazione superiore in Europa,
- ulteriori consultazioni con stakeholder esterni, inclusi i partner associati,
- sfide nel corso dell'implementazione (altre attività all'interno di WP2.2),
- esperienza raccolta nell'applicazione del modello proposto alle microcredenziali ENHANCE in fase di sviluppo nel periodo 2021-2023,
- esperienza raccolta nell'applicazione del quadro di riferimento delle microcredenziali, compreso il modello proposto, a varie forme di apprendimento a breve termine (MOOC, programmi brevi ecc.) offerte individualmente dalle università dell'Alleanza (attualmente e nel prossimo futuro).

ENHANCE micro-credentials/minikvalifikasjoner

Sammendrag

Minikvalifikasjoner (med og uten studiepoeng) er en viktig del av et felles utdanningstilbud i ENHANCE Alliansen. De blir sett på som et middel til å gjøre livslang læring mer fleksibelt og attraktivt, ikke bare for tradisjonelle studenter som tar bachelor-, master- eller doktorgradsstudier, men også for andre grupper som ønsker livslang læring.

For alliansens tradisjonelle studenter vil minikvalifikasjoner gi mulighet for flere formelt dokumenterte kompetanser, som ofte vil ligge utenfor deres studieprogram. Videre planlegger alliansen også å tildele minikvalifikasjoner for tjenester rettet mot samfunnsbaserte læringsaktiviteter, som for eksempel å støtte eldre mennesker i håndteringen av det digitale samfunnet. Å ta korte kurs/emner - nettbasert eller blandet – og andre former for utdanning som tilbys av universitetene i alliansen og som resulterer i minikvalifikasjoner, kan også ses på som et tiltak for å tilpasse utdanningsløp for studentene på bedre måter. Dersom vi ønsker delvis eller full mobilitet innenfor minikvalifikasjoner i alliansen, fysisk, blandet eller nettbasert, vil dette bidra til å gi studentene internasjonal erfaring.

Ved å tilby minikvalifikasjoner vil alliansen også tiltrekke seg andre grupper lærende. Vi ønsker å imøtekomme behovene for livslang læring for alle som søker profesjonsfaglig utvikling gjennom å utvide eller oppdatere sin kompetanse og aktivt engasjere seg i nye teknologier. Alliansen tar også sikte på å imøtekomme behovene til de som ønsker å videreutvikle sin personlige kompetanse og ulike grupper av vanskeligtilte som ellers ikke ville være i stand til å komme inn på universitet. Derfor vil det å tilby ulike korte kurs med minikvalifikasjoner være en måte å svare på samfunnets behov og en del av samfunnsoppdraget.

ENHANCE minikvalifikasjoner vil bli utviklet i samarbeid med partnere fra industrien, lokale myndigheter og ideelle organisasjoner. For å imøtekomme ulike interessenters behov vil minikvalifikasjoner i utgangspunktet bli tilbudt som enkeltstående eller samlinger av korte kurs/emner med fokus på spesifikke spørsmål som er relevante for alliansens oppgaver: digital transformasjon, transformasjon for den grønne økonomien etc. Imidlertid vil formatet og det tematiske omfanget gradvis utvides basert på opparbeidede erfaringer i prosjektet.

Et bredt spekter av minikvalifikasjoner for forskjellige målgrupper krever et felles rammeverk - en systematisk beskrivelse av begreper, regler, prosedyrer og prosesser knyttet til utviklingen og implementeringen av minikvalifikasjoner ved ENHANCE-universitetene. Det antas at rammeverket ikke bare vil gjelde for felles utviklede minikvalifikasjoner i ENHANCE Alliansen (jf. eksisterende forslag og andre forslag som skal utvikles i løpet av den første 3-årige prosjektperioden og i fremtiden), men også til en viss grad i eksisterende og planlagte korte utdanningsløp som tilbys ved hvert universitet i alliansen.

Kjernen i et felles rammeverk for minikvalifikasjoner i ENHANCE Alliansen og emnet for denne rapporten er en mal (template) for utviklingen av ENHANCE minikvalifikasjoner - en nøyaktig definert liste over informasjon som beskriver et kort kurs/emne. Den foreslåtte strukturen i malen for ENHANCE minikvalifikasjoner følger EU-standarden for bærende elementer i minikvalifikasjoner, som ble presentert i desember 2020 av European Commission Consultation Group. I henhold til denne standarden vil beskrivelsen av minikvalifikasjoner inneholde følgende informasjon hvor noe er merket med en stjerne (*), som valgfritt:
- identifisering av den lærende,

- tittelen på kurset/emnet,
- utstederens land,
- tildelingsorgan,
- dato for utstedelse,
- ideell arbeidsmengde som trengs for å oppnå læringsutbytte (i studiepoeng/ECTS),
- nivået på læringsopplevelsen som fører til minikvalifikasjoner (jf. innplassering i Kvalifikasjonsrammeverket/ EQF),
- læringsutbyttebeskrivelser
- form for deltakelse i læringsaktivitetene,
- forutsetninger* i.e. nødvendige forutsetninger for å melde deg på læringsaktiviteten,
- vurderingsform,
- tilsyn og identitetsbekreftelse under vurderingssituasjonen*,
- kvalitetssikring av legitimasjon og, der det er relevant, for læringsinnholdet,
- karakter oppnådd*,
- alternativer for innplassering i relevante studieprogram eller grader (stackability)*,
- annen informasjon*.

I rapporten beskrives disse elementene i detalj og tolkes i sammenheng med rammeverket for minikvalifikasjoner i ENHANCE Alliansen.

Hovedkomponenten i både rammeverket og malen for minikvalifikasjoner i ENHANCE er en typologi for minikvalifikasjoner. Denne typologien definerer flere kategorier minikvalifikasjoner. For hver kategori spesifiseres betegnelsen og de grunnleggende karakteristikkene som følger:
- profil (tema/informasjon om læringsutbytte og innhold),
- primær målgruppe (tradisjonelle studenter, lærende i livslang læring),
- typiske former for organisering av læringsaktivitetene (emne/kurs, kursgrupper, MOOCs for spesielle formål, sommerskole etc.),
- kvalitetssikringsmekanismer, inkludert metoder for vurdering av læringsutbytte,
- spesifikasjon av arbeidsmengde (om antall studiepoeng/ECTS -poeng gis eller ikke, og eventuelt omfanget av studiepoeng som kan tildeles),
- innplassering på nivå i Kvalifikasjonsrammeverket (om referanse til Kvalifikasjonsrammeverket/EQF gis eller ikke, og eventuelt innplassering på nivå),
- komponerbarhet (stackability - om emne/kurset kan kombineres eller inngå i større enheter eller kvalifikasjoner).

I den foreslåtte typologien for ENHANCE minikvalifikasjoner er det to overordnede gruppe:
- sertifikat (certificate),
- kursbevis (badges).

På denne måten skiller vi mellom studiepoenggivende minikvalifikasjoner med den formelle kvalitetssikringen som inkluderer en kvalitetssikret formell vurdering av læringsutbytte, og den andre typen minikvalifikasjoner som kvalifiserer til et kursbevis med en noe «enklere» form for vurdering og kvalitetssikring.

Det er to underkategorier av ENHANCE sertifikat:
- sertifikat for akademisk prestasjon/karakerutskrift (certificate of academic achievement), med læringsutbytte og innholdsbeskrivelser, hvor fokus er på områder/disipliner innen ingeniørfaget eller på tverrfaglig kompetanseutvikling; slike sertifikater er er først og fremst beregnet på å inngå i tradisjonelle bachelor, master og doktorgrader,
- sertifikat for profesjonsfaglig prestasjon/karakterutskrift (certificate of professional achievement) med læringsutbytte og innholdsbeskrivelser hvor fokus er på utvikling av kunnskap og ferdigheter innenfor et område som er relevant for arbeidsmarkedet, faglig videreutvikling eller karriereutvikling; slike sertifikater er først og fremst beregnet på livslang læring og lærende som ønsker å utvide sin kompetanseportefølje for å styrke sin posisjon på arbeidsmarkedet.

Sertifikater for begge underkategoriene tildeles studiepoeng (ECTS points) og innplasseres på nivå i Kvalifikasjonsrammeverket (EQF level); noen av sertifikatene kan fylles på, noe som betyr at de kan anerkjennes som komponenter i større enheter (jf. grader/emner).

I motsetning til sertifikater (certificates) kan kursbevis (badges) tildeles med mer uformelle metoder for vurdering av læringsutbytte eller basert på deltakelse i læringsaktiviteter. De er da ikke tildelt studiepoeng eller innplassert på nivå i Kvalifikasjonsrammeverket og kan heller ikke inngå som emner i for eksempel studieprogram.

Det er to underkategorier for ENHANCE kursbevis:
- kursbevis (badges) for prestasjoner som er basert på et bredt spekter av studietilbud som er åpne for allmennheten (jf. tradisjonelle studenter og lærende i alle aldersgrupper); Dette studietilbudet kan inkludere emner som er utviklet for tradisjonelle studier eller videreutdanning og gjort tilgjengelig, vanligvis i form av MOOCs (Massive open online course) for andre lærende, men da uten studiepoeng. Disse omfatter også spesielt utviklede studietilbud som dekker behovene til ulike grupper i samfunnet (jf. skoleelever, pensjonister etc.),
- kursbevis (badges) tildelt for tjenestebasert læring og frivillig arbeid, som først og fremst tilbys tradisjonelle studenter for deres arbeid til fordel for lokalsamfunn eller samfunnet generelt.

Ulike former for studietilbud som kan føre til ENHANCE minikvalifikasjoner er tenkt utviklet i prosjektet. Disse tilbudene kan klassifiseres med hensyn til:
- leveringsmåte (på campus, online, blandet, hybrid),
- organisering av læringsaktiviteten (kurs/emne, MOOC, treningsøkt, workshop, sommerskole, tjenestebasert læring, frivillighet etc.).

Med tanke på de mange utfordringer som oppstår når det skal utstedes grader/karakterutskrifter ved involverte institusjoner fra forskjellige land, har vi besluttet at minikvalifikasjoner vil bli utstedt av det enkelte universitet i kraft av sitt medlemskap i ENHANCE Alliansen på vegne av alliansen. Dette betyr at dokumentasjon på læringsutbytte signeres av en kvalifisert person fra det aktuelle universitetet, og både logoen til det enkelte universitet og ENHANCE Alliansen vil vises på den trykte versjonen av dokumentasjonen (jf. sertifikat/kursbevis).

Publiseringen av denne rapporten i juli 2021 avslutter ikke arbeidet med malen for ENHANCE minikvalifikasjoner. Malen vil trolig bli tilpasset utviklingen i tiden fremover med særlig vekt på:
- initiativene som kommer fra institusjonene i EU (the European Union) og utviklingen som skjer i høyere utdanning (European Higher Education Area),
- det videre samarbeidet med eksterne interessenter, inkludert tilknyttede partnere,
- utviklingen og implementeringen i andre aktiviteter innen WP2.2 i ENHANCE Alliansen,
- erfaringer fra bruk av den foreslåtte malen for ENHANCE minikvalifikasjoner og videre utvikling i 2021-2023,
- erfaringer fra bruk av rammeverket for minikvalifikasjoner, inkludert den foreslåtte malen og ulike former for mer kortsiktige studietilbud (MOOCs, korte studieprogram osv.) som tilbys innenfor de enkelte universitetene i ENHANCE Alliansen (nå og i fremtiden).

Szablon opisu mikrokwalifikacji[1] nadawanych w ENHANCE

Streszczenie

Mikrokwalifikacje są istotnym elementem wspólnej oferty edukacyjnej konsorcjum ENHANCE. Czynią one tę ofertę bardziej elastyczną i atrakcyjną, nie tylko dla studentów tradycyjnych, realizujących programy studiów pierwszego lub drugiego stopnia, oraz doktorantów, ale także dla innych osób, korzystających z różnych możliwości uczenia się przez całe życie.

Dla naszych tradycyjnych studentów mikrokwalifikacje stwarzają możliwość uzyskania dodatkowych, formalnie certyfikowanych kompetencji wykraczających poza program studiów. W szczególności, planujemy nadawać mikrokwalifikacje dokumentujące efekty uczenia się uzyskane w wyniku aktywności o charakterze społecznym, takich jak pomaganie starszym osobom w opanowaniu technologii cyfrowych. Realizacja różnych krótkich form kształcenia prowadzących do uzyskania mikrokwalifikacji, oferowanych przez uczelnie ENHANCE zdalnie lub w formule mieszanej, może być także postrzegana jako mechanizm indywidualizacji ścieżek kształcenia studentów. Tworzy też możliwość zdobycia przez studentów doświadczenia międzynarodowego, co przybliży nas do osiągnięcia 100% mobilności (fizycznej, mieszanej lub hybrydowej).

Rozwijając mikrokwalifikacje, chcielibyśmy stworzyć atrakcyjną ofertę kształcenia dla różnych grupy studentów nietradycyjnych, odpowiadającą m.in. potrzebom osób pragnących w ramach rozwoju zawodowego zmienić lub zaktualizować swoje portfolio umiejętności oraz nauczyć się aktywnie wykorzystywać nowe technologie. Oferta taka uwzględniałaby też potrzeby osób pragnących wzbogacić swoje kompetencje osobiste, a także potrzeby różnych grup osób defaworyzowanych, które – bez wykorzystania możliwości stworzonych przez mikrokwalifikacje – nie miałyby szans włączenia się do społeczności akademickiej. Oferowanie rozmaitych krótkich form kształcenia, certyfikowanych w formie mikrokwalifikacji, jest zatem naszą reakcją na potrzeby społeczne i sposobem realizacji społecznego wymiaru misji uczelni.

Mikrokwalifikacje oferowane przez ENHANCE będą tworzone wspólnie z partnerami z przemysłu, lokalnymi samorządami i organizacjami non-profit, tak aby uwzględnić potrzeby rozmaitych interesariuszy. Będą ono początkowo oferowane w formie pojedynczych przedmiotów lub zestawów przedmiotów skoncentrowanych na określonej tematyce istotnej z punktu widzenia realizacji misji konsorcjum: transformacji cyfrowej, zmianach zmierzających w kierunku gospodarki ekologicznej itp. Ich zakres tematyczny i forma realizacji będą jednak stopniowo rozszerzane w oparciu o zdobyte doświadczenia.

Szerokie spectrum mikrokwalifikacji przeznaczonych dla różnych grup odbiorców wymaga stworzenia wspólnego dla wszystkich uczelni ENHANCE systemowego, ramowego rozwiązania – systematycznego opisu koncepcji, zasad, procedur i procesów związanych z mikrokwalifikacjami. Zakładamy, że rozwiązanie to będzie miało zastosowanie nie tylko do do mikrokwalifikacji stworzonych wspólnie przez konsorcjum (zdefiniowanych we wniosku do Komisji Europejskiej i innych opracowanych w początkowym 3-letnim okresie trwania projektu oraz w przyszłości), ale także – przynajmniej w pewnym stopniu – do oferowanych

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[1] W środowisku związanym ze szkolnictwem wyższym w Polsce termin „micro-credential" jest tłumaczony na język polski w różny sposób. W trakcie spotkań grupy dyskusyjnej zajmującej się tematyką mikrokwalifikacji, utworzonej z inicjatywy Ministerstwa, obok terminu „mikrokwalifikacja" alternatywnie używany jest termin „mikropoświadczenie".

już obecnie oraz planowanych krótkich form kształcenia prowadzonego indywidualnie przez każdą z uczelni.

Istotną częścią system mikrokwalifikacji w konsorcjum ENHANCE i przedmiotem opracowania jest szablon opisu mikrokwalifikacji nadawanych w ENHANCE – ściśle zdefiniowana lista informacji definiujących mikrokwalifikację. Proponowana struktura informacji w tym szablonie jest wzorowana na standardzie przedstawionym w grudniu 2020 r. przez Grupę Konsultacyjną Komisji Europejskiej zajmującą się tą problematyką. Zgodnie z tym standardem, opis mikrokwalifikacji będzie zawierał następujące elementy, niektóre z nich, oznaczone (*) – opcjonalnie:
- dane identyfikujące osobę uczącą się,
- nazwa mikrokwalifikacji,
- lokalizacja (kraj) podmiotu nadającego mikrokwalifikację,
- podmiot nadający mikrokwalifikację,
- data nadania mikrokwalifikacji,
- nakład pracy związany z uzyskaniem efektów uczenia się zdefiniowanych dla mikrokwalifikacji (w punktach ECTS),
- poziom efektów uczenia się zdefiniowanych dla mikrokwalifikacji (odniesiony do poziomu w Europejskiej Ramie Kwalifikacji),
- efekty uczenia się,
- forma uczestnictwa w procesie uczenia się,
- wymagania wstępne*,
- sposób sprawdzania efektów uczenia się,
- nadzór i weryfikacja tożsamości w procesie sprawdzania efektów uczenia się*,
- metoda zapewniania jakości mikrokwalifikacji,
- ocena uzyskana przez osobę uczącą się*,
- możliwość uznania mikrokwalifikacji jako elementu „większej" mikrokwalifikacji lub kwalifikacji*,
- dodatkowe informacje*.

W opracowaniu elementy te są szczegółowo opisane i zinterpretowane w kontekście systemu mikrokwalifikacji konsorcjum ENHANCE.

Kluczowym elementem systemu mikrokwalifikacji, niezbędnym do zdefiniowania szablonu opisu mikrokwalifikacji nadawanych w konsorcjum ENHANCE, jest klasyfikacja (typologia) mikrokwalifikacji. Klasyfikacja ta definiuje typy/rodzaje mikrokwalifikacji i dla każdego z wyróżnionych rodzajów określa jego nazwę oraz istotne atrybuty, w tym:
- profil (ukierunkowanie efektów uczenia się i treści),
- podstawową grupę odbiorców (studenci tradycyjni, osoby wykorzystujące możliwość uczenia się przez całe życie),
- typowe formy realizacji procesu kształcenia (przedmiot lub zestaw przedmiotów, oferowanych w formie zajęć na uczelni lub w formie MOOC, szkoła letnia itp.),
- mechanizmy zapewniania jakości, w tym metody oceny efektów uczenia się,
- specyfikację nakładu pracy związanego z uzyskaniem mikrokwalifikacji (czy przypisane są punkty ECTS, a jeśli tak, jaki jest ich zakres),
- specyfikację poziomu (czy przypisany jest poziom w Europejskiej Ramie Kwalifikacji),
- możliwość uznania mikrokwalifikacji jako elementu „większej" mikrokwalifikacji lub kwalifikacji.

W proponowanej klasyfikacji wyróżniamy dwa rodzaje mikrokwalifikacji nadawanych w uczelniach ENHANCE:
- certyfikaty.
- odznaki.
W ten sposób rozróżniamy mikrokwalifikacje, którym przypisane są punkty ECTS i które są objęte kompleksowymi mechanizmami zapewniania jakości, w tym weryfikacji efektów uczenia się (certyfikaty), od innych mikrokwalifikacji (odznak).

Mamy dwie podgrupy certyfikatów nadawanych przez ENHANCE:
- certyfikaty osiągnięć akademickich, dla których efekty uczenia się i treści, zawierające znaczny komponent wiedzy, skoncentrowane są na określonym podobszarze inżynierii lub kształtowaniu kompetencji transdyscyplinarnych; tego typu certyfikaty przeznaczone są przede wszystkim dla studentów studiów pierwszego i drugiego stopnia oraz doktorantów,
- certyfikaty osiągnięć specjalistycznych/zawodowych, dla których efekty uczenia się i treści skoncentrowane są na zastosowaniach wiedzy i umiejętnościach przydatnych na rynku pracy i istotnych dla rozwoju zawodowego; tego typu certyfikaty przeznaczone są przede wszystkim dla osób korzystających z różnych możliwości uczenia się przez całe życie, które chciałyby rozszerzyć zakres swoich umiejętności i w ten sposób zwiększyć swoje szanse na rynku pracy.

Certyfikatom obu podgrup przypisane są punkty ECTS i poziom w Europejskiej Ramie Kwalifikacji. Niektóre z nich mogą być uznane jako elementy „większych" mikrokwalifikacji lub kwalifikacji.

W odróżnieniu od certyfikatów odznaki mogą być nadawane także w przypadku mniej formalnych metod weryfikacji efektów uczenia się lub nawet na podstawie uczestnictwa w zajęciach. Odznaki nie mają przypisanych punktów ECTS i poziomu w Europejskiej Ramie Kwalifikacji i z zasady nie mogą być uznane jako elementy „większych" mikrokwalifikacji lub kwalifikacji.

Podobnie jak w przypadku certyfikatów, mamy dwie podgrupy odznak nadawanych przez ENHANCE:
- odznaki potwierdzające osiągnięcia związane z szeroką ofertą edukacyjną adresowaną do wszystkich potencjalnych grup odbiorców (tradycyjnych i nietradycyjnych studentów w różnym wieku); oferta ta może obejmować moduły kształcenia będące elementami programów studiów lub innych programów kształcenia, udostępnione (zwykle w formie MOOC) innym osobom bez możliwości uzyskania punktów ECTS, ale także elementy odpowiadające potrzebom specyficznych grup odbiorców (uczniów szkół średnich, seniorom itp.),
- odznaki potwierdzające osiągnięcie specyficznych efektów uczenia się w wyniku aktywności o charakterze społecznym lub wolontariatu, przyznawane przede wszystkim tradycyjnym studentom za ich działalność na rzecz lokalnych społeczności i – w ogólności – społeczeństwa.

Mikrokwalifikacje (zarówno certyfikaty, jak i odznaki) mogą być uzyskiwane w wyniku uczenia się realizowanego w różnych formach. Formy te można sklasyfikować ze względu na:
- tryb prowadzenia zajęć – kontakt prowadzącego z uczestnikami zajęć (na uczelni, zdalnie, w trybie mieszanym, hybrydowo),
- formy realizacji kształcenia (przedmiot lub zestaw przedmiotów, prowadzonych tradycyjnie lub w formie MOOC, sesja szkoleniowa, warsztaty, szkoła letnia, aktywność społeczna, wolontariat itp.).

Przewidując rozliczne problemy podobne do tych, jakie występują w przypadku wydawania dyplomów ukończenia studiów prowadzonych wspólnie przez uczelnie z różnych krajów, zdecydowaliśmy, że mikrokwalifikacje będą nadawane przez poszczególne uczelnie tworzące konsorcjum ENHANCE w imieniu całego konsorcjum. Oznacza to, że dokument potwierdzający uzyskanie mikrokwalifikacji będzie podpisany przez upoważnioną osobę - reprezentanta jednej z uczelni, a na jego drukowanej wersji pojawi się logo ENHANCE i logo tej uczelni.

Publikacja opracowania dotyczącego szablonu opisu mikrokwalifikacji nadawanych w ENHANCE w lipcu 2021 r. nie oznacza zakończenia prac nad tym szablonem. Będzie on zapewne modyfikowany w najbliższych miesiącach i latach, z uwzględnieniem m.in.:

- inicjatyw podejmowanych przez instytucje Unii Europejskiej i działań związanych z kształtowaniem Europejskiego Obszaru Szkolnictwa Wyższego,
- wyników konsultacji z interesariuszami zewnętrznymi, w tym partnerami stowarzyszonymi konsorcjum,
- rozwiązań w zakresie implementacji (innych działań w ramach WP2.2),
- doświadczeń związanych z zastosowaniem zaproponowanego szablonu do opisu mikrokwalifikacji opracowanych w ENHANCE w latach 2021-2023,
- doświadczeń związanych z funkcjonowaniem tworzonego systemu mikrokwalifikacji, w tym zaproponowanego szablonu opisu mikrokwalifikacji, w odniesieniu do różnych krótkich form kształcenia (MOOCów, krótkich programów itp.) prowadzonych – obecnie i w przyszłości – przez poszczególne uczelnie tworzące konsorcjum ENHANCE.

Modelo para micro credenciales ENHANCE

Resumen ejecutivo

Las microcredenciales son una parte esencial de la oferta educativa de ENHANCE. Son un medio para hacer que sea más flexible y atractiva la oferta educativa, no sólo a estudiantes tradicionales, que quieren obtener el grado, el master o el doctorado, sino también a aquellos estudiantes que quieren aprender a lo largo de toda su vida, tengan la edad que tengan.

A nuestros estudiantes tradicionales, las microcredenciales les darán la oportunidad de obtener competencias adicionales certificadas formalmente que con frecuencia estarán más allá de su campo de estudio principal. En particular, daremos microcredenciales para aquellas actividades que estén relacionadas con el servicio a la sociedad, como ayudar a las personas mayores a lidiar con la transformación digital, etc. Realizar cursos de corta duración y otras formas de aprendizaje que se ofrezcan por las universidades de la Alianza en formato virtual o híbrido y que sea reconocido con microcredenciales es otra forma de aprendizaje transversal que ayude a personalizar los itinerarios curriculares. También puede proporcionar a los estudiantes experiencia internacional para avanzar hacia el objetivo de movilidad del 100% (física, híbrida o virtual).

Al ofrecer microcredenciales, también nos gustaría atraer a varios grupos de estudiantes no tradicionales. Nuestra intención es abordar las necesidades de aquellos estudiantes que quieren aprender durante en cualquier momento de sus vidas y que buscan desarrollo profesional mediante la actualización de sus habilidades profesionales y la participación activa con las nuevas tecnologías. También nuestro objetivo es abordar las necesidades de aquellos estudiantes que desean mejorar sus competencias personales y las necesidades de varios grupos de estudiantes desfavorecidos que de otra manera no podrían ser parte de la comunidad universitaria. Por lo tanto, ofrecer diversas formas de aprendizaje a corto plazo certificadas por microcredenciales sería una forma de responder a las necesidades de la sociedad y una parte de nuestra misión social.

Las microcredenciales ENHANCE se desarrollarán juntamente con socios de la industria, gobiernos locales y organizaciones sin fines de lucro, de modo que, para satisfacer las necesidades de los diversos grupos de interés éstas se ofrecerán inicialmente como cursos certificados o grupos de cursos enfocados a temas relevantes para la misión de la Alianza: transformación digital, transformación para la economía verde, etc. Sin embargo, su formato y alcance temático se irá ampliando gradualmente en función de la experiencia adquirida.

Con un amplio espectro de microcredenciales destinadas a diferentes grupos objetivo, necesitamos un marco conjunto de microcredenciales: la descripción sistemática de conceptos, reglas, procedimientos y procesos relacionados con las microcredenciales, desarrollada e implementada en las universidades ENHANCE. Suponemos que este marco será aplicable no sólo al desarrollo conjunto de la microcredencial para ENHANCE (definido en la propuesta ENHANCE, y otros más que se desarrollarán dentro del período inicial proyecto de 3 años y en el futuro), sino también - al menos en cierta medida, a las formas de educación a corto plazo existentes y previstas que ofrece cada universidad de la Alianza.

La parte esencial del marco de la microcredencial ENHANCE y el tema de este informe es el de definir y describir el modelo de microcredencial ENHANCE, la lista de elementos precisos y la información imprescindible que debe contener. La estructura de información propuesta en el modelo de la microcredencial ENHANCE sigue el estándar de la UE que establece los elementos constitutivos de las microcredenciales presentado en diciembre de 2020 por el

Grupo de Consulta de la Comisión Europea. Según este estándar, la descripción de una micro-credencial contendrá los siguientes elementos siendo, algunos de ellos (marcados con un asterisco *), opcionales:
- Nombre y apellidos del alumno/alumna,
- Título de la microcredencial,
- País emisor,
- Entidad,
- Fecha de emisión,
- Carga de trabajo para alcanzar los resultados de aprendizaje (en ECTS),
- Nivel de la experiencia de aprendizaje que conduce a la micro-credencial (EFQ nivel),
- Objetivos del aprendizaje,
- Tipo de participación en la actividad,
- Prerrequisitos* para inscribirse en la actividad,
- Tipo de evaluación,
- Supervisión y verificación de identidad durante la evaluación*,
- Mecanismos de calidad de la credencial y, en su caso, de los contenidos de aprendizaje,
- Grado obtenido*,
- Integración / aplicabilidad de las opciones*,
- Otra información*.

En el informe, estos elementos se describen en detalle y se interpretan en el contexto del marco de las microcredenciales ENHANCE.

El componente clave del marco de la microcredencial ENHANCE, necesario para desarrollar el modelo de microcredenciales, es su tipología. Esta tipología define los tipos de microcredenciales y para cada tipo se especifica su nombre y sus características básicas que incluyen:
- Perfil (enfoque / orientación de los resultados y el contenido del aprendizaje),
- Grupo objetivo principal (estudiantes tradicionales, formación continua),
- Formas típicas de actividad de aprendizaje (curso/grupo de cursos, MOOC de propósito especial, escuelas de verano, etc.),
- Mecanismos de garantía de la calidad, incluidos los métodos de evaluación de los resultados del aprendizaje,
- Especificación de la carga de trabajo (si se da o no el número de puntos ECTS y, en caso afirmativo, el rango de puntos ECTS que se pueden asignar),
- Especificación del nivel (si se da o no la referencia / asignación al nivel EQF),
- Aplicabilidad (ya sea que se pueda combinar o no en credenciales o calificaciones más grandes).

En la tipología propuesta de la microcredencial ENHANCE, hay dos grupos básicos de micro-credenciales:
- Certificados,
- Diplomas.

De esta manera, distinguimos entre microcredenciales con ECTS con la rígida garantía de calidad que incluye una evaluación formal exhaustiva de los resultados del aprendizaje (certificados), y el otro tipo de micro-credenciales (insignias) para otro tipo de estudiantes.

Hay dos subcategorías de certificados ENHANCE:
- Los certificados de rendimiento académico, con sus resultados de aprendizaje y contenidos, que comprenden un componente esencial del conocimiento, focalizado en una (sub)área específica / disciplina de competencias de ingeniería o transdisciplinarios; Dichos certificados están destinados principalmente a estudiantes de grado, master o doctorado.
- Certificados de especialización/logros profesionales, con sus resultados de aprendizaje y contenidos enfocados a la aplicación de los conocimientos y/o el desarrollo de

habilidades en (sub)área/disciplina relevante para el mercado de trabajo o el desarrollo profesional. Dichos certificados están destinados principalmente a estudiantes no formales que desean mejorar sus habilidades para aumentar su competitividad en el mercado laboral.

A los certificados de ambas subcategorías se les asignan puntos ECTS y nivel EQF; algunos de ellos son apilables, lo que significa que pueden reconocerse como componentes de credenciales más grandes.

A diferencia de los certificados, las insignias pueden otorgarse con métodos no formales de evaluación de los resultados del aprendizaje o incluso basándose en la participación en actividades de aprendizaje. No tienen asignados puntos ECTS ni nivel EQF y, en general, no son apilables.

Como en el caso de los certificados, existen dos subcategorías de diplomas ENHANCE:
- Diplomas de logros que se basan en un amplio espectro de oferta educativa abierta al público en general (estudiantes tradicionales y no tradicionales de todos los grupos de edad); esto puede incluir algunos cursos desarrollados con el propósito de los programas de grado o educación continua, puesto a disposición (por lo general en forma de MOOCs) de otros estudiantes no matriculados formalmente, sino también otras ofertas educativas especiales que respondan a las necesidades de los diversos grupos de sociedad (estudiantes de secundaria, jubilados, etc.),
- Diplomas otorgados por aprendizaje basado en servicios y voluntariado, ofrecidos principalmente a estudiantes tradicionales por su trabajo en beneficio de las comunidades locales o de la sociedad en general.

Se prevén diferentes formas de actividades de aprendizaje que podrían conducir a una microcredencial ENHANCE (tanto certificados como insignias). Estas formas se pueden clasificar según:
- El modo de entrega (in situ / en el campus, en línea, combinado, híbrido),
- Organización de la actividad de aprendizaje (curso(s), en particular, MOOCs, sesiones de formación, talleres, escuela de verano, seminarios, el voluntariado, etc.).

Anticipando numerosos problemas similares a los que se encuentran cuando las instituciones de diferentes países emiten títulos/diplomas conjuntos, hemos decidido que las microcredenciales serán otorgadas por las universidades pertenecientes a la Alianza ENHANCE de forma individual, en nombre de la Alianza. Esto significa que el documento de certificación será firmado por una persona elegible de la universidad correspondiente y tanto el logotipo de esa universidad como el logotipo de ENHANCE Alliance aparecerán en la versión impresa del documento.

La publicación de este informe en julio de 2021 no finaliza el trabajo en el modelo de la microcredencial ENHANCE. Es probable que el modelo se ajuste a los desarrollos que tengan lugar en los próximos meses y años y teniendo en cuenta en particular:
- Las iniciativas de las instituciones de la Unión Europea y los desarrollos que tienen lugar en el Espacio Europeo de Educación Superior,
- la consulta adicional con las partes interesadas externas, incluidos los socios asociados,
- los problemas de implementación (otras actividades dentro del WP2.2),
- la experiencia con la aplicación de la plantilla propuesta a las micro credenciales ENHANCE que se está desarrollando en 2021-2023,
- la experiencia con la aplicación del marco de micro credenciales, incluido el modelo propuesto, a diversas formas de provisión de educación a corto plazo (MOOC, programas cortos, etc.) ofrecidos individualmente por las universidades de la Alianza (actualmente y en un futuro próximo).

Mall för ENHANCE mikromeriter

Sammanfattning

Mikromeriter är en viktig del av det gemensamma utbildningsutbudet inom ENHANCE. De är ett sätt att göra erbjudandet mer flexibelt och attraktivt, inte bara för traditionella studenter som läser ett program med sikte på på en kandidat-, master- eller doktorsexamen, utan också för studenter i livslångt lärande.

För våra traditionella studenter kommer mikromeriterna att innebära möjligheter för att tillägna sig ytterligare formellt certifierade kompetenser, som kan ligga utanför studiernas huvudsakliga studieinriktning. Vi planerar till exempel att utfärda mikromeriter för läraktiviteter inom samhällsinsatser i vid bemärkelse, till exempel att stötta äldre i att hantera den digitala omvandlingen. Att delta i kortare kurser och andra typer av utbildningar som erbjuds av universiteten i konsortiet, i form av e-utbildningar eller i blandade lärmiljöer, och som resulterar i mikromeriter, kan också ses som ett sätt för studenterna att skräddarsy sin utbildning. Det kan också ge studenterna internationell erfarenhet och föra dem närmare målet om att alla studenter ska genomgå någon form av mobilitet (fysiskt, virtuellt eller i hybridform).

Genom att erbjuda mikromeriter hoppas vi också kunna locka till oss olika grupper av icke-traditionella studenter. Tanken är att vi ska svara mot behoven hos personer som genom livslångt lärande och vidareutbildning vill främja sin personliga utveckling med målet att byta inriktning eller uppdatera sina kompetenser och aktivt ta till sig ny teknik. Vi vill också svara mot behoven hos dem som vill utveckla sina personliga kompetenser samt behoven hos olika grupper av förfördelade som annars inte skulle kunna komma in i den akademiska världen. Att erbjuda olika typer av korta utbildningar som certifieras genom mikromeriter skulle är ett bra sätt att svara mot samhällets behov och utgöra en del av vårt bidrag till samhällsnyttan.

Mikromeriterna inom ENHANCE ska tas fram i samarbete med partners inom näringslivet, myndigheter samt ideella organisationer så att de motsvarar behoven hos olika intressenter. Mikromeriterna kommer till en början att erbjudas som certifierade kurser eller grupper av kurser i specifika ämnen som är relevanta för konsortiets uppdrag: digital omställning, omställning till en grön ekonomi etc. Kursernas format och ämnesområdena kommer dock att breddas gradvis utifrån de erfarenheter vi samlar på oss.

Med en stor bredd av mikromeriter avsedda för olika målgrupper behöver vi ett övergripande ramverk för mikromeriter – en systematisk beskrivning av upplägget, reglerna, förfarandet och processerna kring mikromeriter som utvecklas och implementeras vid ENHANCE-universiteten. Vår utgångspunkt är att detta ramverk kommer att kunna tillämpas inte bara på mikromeriter som tagits fram gemensamt (sådana som definierats i ENHANCE-förslaget och andra som kommer att utvecklas inom det ursprungliga treårsprojektet och i framtiden), utan också – åtminstone i viss utsträckning – på de befintliga och planerade kortare utbildningar som erbjuds av de olika universitet som ingår i konsortiet.

Den viktigaste delen av ramverket för mikromeriter och ämnet för den här rapporten är mallen för mikromeriter inom ENHANCE – den noggrant avgränsande lista över nödvändiga informationselement som används för att beskriva en mikromerit. Den föreslagna informationsstrukturen i ENHANCE:s mall för mikromeriter följer EU:s standard för mikromeriternas grundläggande beståndsdelar, så som den presenteras i "A European approach to Micro-credentials" som gavs ut av Europeiska kommissionens rådgivande grupp

i december 2020[1]. Enligt denna standard kommer beskrivningen av en mikromerit att omfatta följande information, där en del information, markerad med asterisk(*), är frivillig:
- identifikation av studenten,
- mikromeritens namn,
- land där utfärdandet skett,
- utfärdande institution,
- utfärdandedatum,
- beskrivning av den arbetsinsats som behövts för att uppnå lärandemålen (enligt det europeiska systemet för överföring av studiemeriter, ECTS)
- nivån på den lärandeerfarenhet som lett fram till mikromeriten (nivå enligt EQF, den europeiska referensramen för kvalifikationer),
- lärandemål,
- form av deltagande i läraktiviteten,
- nödvändiga förutsättningar* för att man ska kunna bli inskriven på läraktiviteten,
- typ av bedömning,
- övervakning och identitetskontroll vid bedömningen*,
- kvalitetssäkring av meriten och, om relevant, innehållet i undervisningen,
- uppnått betyg*,
- möjligheter till integrering/påbyggnad*,
- ytterligare information*.

I rapporten beskrivs de olika delarna i detalj och tolkas mot bakgrund av ramverket för ENHANCE mikromeriter.

Den viktigaste komponenten i ramverket för ENHANCE mikromeriter, som är nödvändig för att kunna utveckla mallen för mikromeriter, är typologin för mikromeriter. Denna typologi definierar vilka typer av mikromeriter som finns och för varje typ anges namn och grundläggande egenskaper, däribland:

- profil (fokus/inriktning på lärandemål och innehåll),
- primär målgrupp (traditionella studenter, studenter i livslångt lärande),
- typiska former av läraktiviteter (kurs/grupp av kurser, storskaliga öppna nätkurser (MOOC) med speciellt syfte, sommarkurser etc.),
- mekanismer för kvalitetssäkring, inklusive metoder för bedömning av läranderesultaten,
- specificering av arbetsinsatsen (om ECTS-poäng ges, och i så fall hur många och hur få ECTS-poäng man kan erhålla),
- specificering av nivå (om det ges någon referens till EQF-nivån),
- påbyggnadsmöjligheter (om den kan kombineras till större meriter eller kvalifikationer).

I den föreslagna typologin för ENHANCE mikromeriter finns det två grundläggande grupper av mikromeriter:

- kursintyg (en: certificate)
- diplom (en: badge)

På detta sätt skiljer vi mellan mikromeriter som bygger på det europeiska systemet för överföring av studiemeriter (ECTS), med sin stabila kvalitetssäkring som inkluderar en noggrann formell bedömning av läranderesultaten (kursintyg) och den andra typen av mikromeriter (diplom).

ENHANCE-kursintygen delas in i två underkategorier:

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[1] Denna broschyr från EU finns i skrivande stund inte i svensk översättning, och översättningen av punktlistan nedan är därför preliminär och kan skilja sig från EU:s översättning av punkterna när en översättning av broschyren ev. kommer så småningom.

- intyg om akademisk prestation, med läranderesultat och innehåll, bestående av en väsentlig del kunskap, fokuserande på ett specifikt ämnesområde, vetenskapligt område eller tvärvetenskaplig kompetens; denna typ av kursintyg är framför allt avsedda för studenter som studerar mot en traditionell examen på kandidat-, master- eller doktorsnivå,
- kursintyg om yrkesmässig prestation/specialisering med lärandemål och innehåll inriktat på tillämpande av kunskaper och/eller utveckling av färdigheter inom något område/ämne som är relevant för arbetsmarknaden eller den personliga utvecklingen/karriären; denna typ av kursintyg är framför allt avsedda för studenter i livslångt lärande och personer som vill utveckla sin kompetensportfölj för att öka sin konkurrenskraft på arbetsmarknaden.

Båda dessa underkategorier av kursintyg tilldelas ECTS-poäng och EQF-nivå; en del av dem är påbyggnadsbara vilket betyder att de kan ingå som komponenter i större meritpaket.

Till skillnad från kursintygen, kan ett diplom erhållas genom en ganska informell bedömning av läranderesultaten, eller till och med enbart baserat på deltagande i läraktiviteterna. De tilldelas inga ECTS-poäng och ingen EQF-nivå och är, i allmänhet, inte påbyggnadsbara.

Precis som för kursintygen finns det två underkategorier av ENHANCE-diplom:
- diplom för en prestation på en kurs, som kan innefatta ett brett spektrum av olika utbildningserbjudanden som är öppna för den breda allmänheten (traditionella och icke-traditionella studenter i alla åldrar). Detta kan inkludera vissa kurser som utvecklats i syfte att ingå i examensgivande utbildningsprogram eller i vidareutbildningar, som gjorts tillgängliga (vanligtvis i form av storskaliga öppna nätkurser, s.k. MOOCs) för andra inlärare utan att några betyg utfärdas, men också speciella erbjudanden som vänder sig till olika grupper i samhället (gymnasieelever, pensionärer etc.),
- diplom som man får för samhällsinsatser inom ramen för pågående utbildning och volontärarbete, som erbjuds framför allt till traditionella studenter när de gör insatser som gagnar lokalsamhället eller samhället i stort.

Vi föreställer oss att olika typer av läraktiviteter kan leda till en ENHANCE mikromerit (både kursintyg och diplom). Dessa typer kan delas in efter:
- Hur läraktiviteten levereras (på plats/på campus, online, i blandade lärmiljöer eller i hybridform),
- Hur läraktiviteten är organiserad (kurs eller kurser, storskaliga öppna nätkurser, utbildningstillfällen, workshops, sommarskolor, kurser som innehåller praktik i form av samhällsinsatser , volontärarbete etc.).

Eftersom vi kan förutse ett antal problem liknande dem som uppstår när gemensamma examina utfärdas av institutioner från olika länder har vi beslutat att mikromeriter kommer att utfärdas av enskilda universitet – medlemmarna i ENHANCE-konsortiet – på uppdrag av konsortiet. Detta betyder att intyget kommer att undertecknas av en behörig person från det aktuella universitetet och att både logotypen för universitetet och logotypen för ENHANCE-konsortiet kommer att finnas på den tryckta versionen av dokumentet.

Publiceringen av den här rapporten i juli 2021 betyder inte att arbetet med mallen för ENHANCE mikromeriter är avslutat. Mallen kommer troligen att justeras efter den utveckling som kommer att ske under de kommande månaderna och åren och kommer särskilt att anpassas efter:
- de initiativ som kommer från institutionerna i EU och den utveckling som sker inom det europeiska området för högre utbildning,
- vidare konsultation med externa intressenter, däribland anslutna partners,
- implementeringsfrågorna (andra aktiviteter inom WP2.2),
- erfarenheterna från tillämpningen av den föreslagna mallen för ENHANCE mikromeriter som utvecklas under 2021-2023,

- erfarenheterna från tillämpningen av ramverket för mikromeriter, inklusive den föreslagna mallen, på olika former av kortare utbildningserbjudanden (storskaliga öppna nätkurser, korta program etc.) som tillhandahålls av de enskilda universiteten i konsortiet (nu och i en nära framtid).

Template for ENHANCE micro-credentials[1]

1. Introduction

In recent years, a trend towards diversification of education provision by higher education institutions can be observed. In addition to traditional bachelor, master or doctoral degree programmes, various new short, more flexible, learner-centred forms of education and training that fit the needs of a wider range of learners have been offered. Also other public and private providers offer different forms of short-term education and training targeting various groups of learners.

This is the response to the changes on the labour market, where a growing number of adults, with a higher education degree or lower, will have to reskill and upskill to fill the gap between the competencies acquired through initial formal learning and emerging knowledge and skills needed. In particular, the COVID-19 crisis has resulted in a substantial increase in demand for various forms of flexible on-line continuing education and training offered by higher education institutions and other providers[2].

These alternative forms of learning are offered under different names[3], leading to confusion and problems with their understanding, recognition and appreciation by prospective learners and employers. This has resulted in an effort, in particular in Europe, to address this issue and develop measures that would allow interested stakeholders to better understand and recognise the value of various forms of short education and training programmes and the resulting credentials, for which the term "micro-credentials" is currently increasingly commonly used.

Although the development of various forms of micro-credentials is primarily market-driven, they are beneficial not only for professionals who would like to update their competences or acquire new competences that would give them a better position on the labour market. Micro-credentials, especially those offered by higher education institutions, bring benefits to students enrolled in traditional degree programmes, complementing or supplementing these programmes, in particular through enhancing students' opportunities to develop transferable skills useful for their future careers.

Micro-credentials also create new opportunities for various groups of non-traditional students – life-long learners. They address the needs of those who would like to enhance their personal competencies and also create pathways into tertiary education for various groups of learners from disadvantaged backgrounds. With the demographic changes observed in Europe, it is of a key importance to create the education offer for elderly people that would

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[1] As explained in section 3, in the proposed European standard, the term "micro-credentials" is used to denote credentials related to all forms of short learning experience. Therefore, the phrase "template for micro-credentials, ENHANCE Certificate and Labels" used in the ENHANCE Proposal submitted in early 2020 to describe the deliverable resulting from the development of templates for various forms of joint short-term education provision offered by the ENHANCE Alliance has been changed to "Template for ENHANCE micro-credentials".

[2] D. Orr, M. Pupinis, and G. Kirdulyte, *Towards a European approach to micro-credentials: a study of practices and commonalities in offering micro-credentials in European higher education*, NESET report, Publications Office of the European Union, Luxembourg 2020

[3] *Micro-credentials and Bologna Key Commitments State of play in the European Higher Education Area*, MICROBOL, February 2021,
https://microcredentials.eu/wp-content/uploads/sites/20/2021/02/Microbol_State-of-play-of-MCs-in-the-EHEA.pdf

allow for active ageing in the digital age. Therefore, offering various short-term forms of learning certified by micro-credentials can be seen as the essential part of the "third mission" of universities and their social responsibility.

Micro-credentials have the high potential of social impact. They allow people to maintain and acquire various competences that enable them to participate fully in society, ensure their personal, social and professional empowerment, and thereby create better lives and better opportunities for all. Therefore, micro-credentials are high on the agenda of various political initiatives taking place at the European level. This is reflected in several documents of the European Commission, including:
- the communication on achieving the European Education Area by 2025[4],
- the updated Digital Education Action plan[5],
- New Skills Agenda for Europe[6].

Several research projects on micro-credentials have been supported by the European Commission, including MICROBOL (Micro-credentials linked to the Bologna Key Commitments) and MicroHE[7], resulting in reports presenting, inter alia, problems with the development of the European approach to micro-credentials.

Another initiative of the European Commission is the establishment of the Micro-Credentials Higher Education Consultation Group, whose task is to propose a common definition and the EU standard for constitutive elements of micro-credentials. The report of this Consultation Group[8], published in December 2020, has been an essential element of the consultation process initiated by the European Commission in May 2021. This process will end up with the Commission proposal for a Council Recommendation on micro-credentials for lifelong learning and employability (planned for the last quarter of 2021), to be adopted by the Council of Ministers in 2022.

It is expected that the significant progress will be made as a result of the European Universities Initiative, with European Universities developing and testing micro-credentials, thereby paving the way for other higher education institutions to follow. In fact, several European Universities alliances, including European Consortium of Innovative Universities (ECIU) and Young Universities for the Future of Europe (YUFE), have already reported some achievements in this area.

High expectations regarding the contribution of the European Universities to the development of micro-credentials have been emphasised in a recent European Commission document for the meeting with rectors of European Universities[9], where one of its 6 sections is devoted to the European approach to micro-credentials.

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[4] *Communication on Achieving the European Education Area by 2025*, COM(2020) 625 final, European Commission, Brussels, 30.09.2020
https://ec.europa.eu/education/resources-and-tools/document-library/eea-communication-sept2020_en
[5] *Digital Education Action Plan 2021-2027: Resetting education and training for the digital age*, European Commission, 2020
https://ec.europa.eu/education/education-in-the-eu/digital-education-action-plan_en
[6] *European Skills Agenda for Sustainable Competitiveness, Social Fairness And Resilience*, European Commission, 30.06.2020, https://ec.europa.eu/social/main.jsp?catId=1223
[7] https://microcredentials.eu [accessed 4 June 2021]
[8] *A European Approach to Micro-Credentials: Output of the Micro-Credentials Higher Education Consultation Group*, December 2020
https://ec.europa.eu/education/education-in-the-eu/european-education-area/a-european-approach-to-micro-credentials_en
[9] *Background note: Targeted consultation with rectors of European Universities, 27 April 2021*, European Commission, Directorate-General for Education, Youth, Sport and Culture

2. Micro-credentials at ENHANCE

Micro-credentials are an essential part of the ENHANCE joint educational offer. They are viewed as a means to make it more flexible and attractive, not only to traditional students, pursuing bachelor, master or doctoral degree programmes, but also to various groups of life-long learners.

For our traditional students, micro-credentials will create an opportunity to achieve additional competencies, frequently beyond the major field of study, and have them formally certified. In particular, we are planning to award micro-credentials for service to society based activities, intended to promote new technologies. Taking short courses and other forms of learning resulting in micro-credentials, offered by the Alliance universities in virtual or blended learning format, can also be seen as a measure to customise student education pathways and provide them with international experience to move towards 100% (physical, hybrid or virtual) mobility objective.

By offering micro-credentials we would also like to attract various groups of non-traditional students. It is our intention to address the needs of life-long learners seeking professional development through changing or updating their skills portfolio and actively engaging with new technologies. We also aim to address the needs of those learners who wish to enhance their personal competencies and the needs of various groups of disadvantaged learners who otherwise would not be able to enter the university community. Therefore, offering various short-term forms of learning certified by micro-credentials would be a way to respond to the needs of society and a part of our societal mission.

Conceptually, micro-credentials are not new to the ENHANCE universities. Various forms of short-term forms of education intended for both traditional and non-traditional students that can be treated as micro-credentials have been offered for many years. The examples of such offerings are given in Annex 1. The related experience has been used when developing the ENHANCE micro-credentials framework/template and will be used when developing ENHANCE micro-credentials.

The ENHANCE micro-credentials, developed jointly by the ENHANCE universities, will initially be offered as certified courses or groups of courses focusing on specific issues relevant to the mission of the Alliance: digital transformation, transformation for the green economy etc. Their format and thematic scope will, however, be gradually extended based on the experience gained. They will be developed jointly with partners from industry, local governments and non-profit organisations to meet the needs of various stakeholders.

The examples of educational offerings leading to micro-credentials that are to be developed and implemented jointly by the Alliance within the initial 3-year period of cooperation, mentioned in the ENHANCE Proposal, include:
- MOOC "Responsible innovators of tomorrow",
- ENHANCE summer school on climate action,
- ENHANCE summer school on sustainable cities,
- ENHANCE Label in data literacy,
- ENHANCE Label in climate action,
- ENHANCE life-long learning course leading to micro-credential in digital transformation,
- ENHANCE life-long learning course leading to micro-credential in transformation for the green economy,
- ENHANCE summer schools in sustainable entrepreneurship,
- ENHANCE Certificate in sustainable entrepreneurship,
- ENHANCE Certificate in higher education teaching.

3. ENHANCE micro-credentials framework: basic concepts

The main purpose of this report is to define the ENHANCE micro-credential template. To introduce the concept of the micro-credentials template, we have to specify what micro-credentials are and define other relevant concepts, such as micro-credentials framework and micro-credentials typology/taxonomy.

As stated in many reports, a shared and transparent definition of micro-credentials is the key to their development and uptake. Many different definitions of micro-credentials have been proposed. The majority of them state that a micro-credential is a small volume of learning certified by a credential. For instance, certificates, badges and some MOOCs are referred to as the examples of micro-credentials. The other examples of micro-credentials are given, inter alia, in the MICROBOL report[10].

In the earlier mentioned report of the European Commission Consultation Group[11], a micro-credential is defined in the following way:

> *A micro-credential is a proof of the learning outcomes that a learner has acquired following a short learning experience. These learning outcomes have been assessed against transparent standards.*
>
> *The proof is contained in a certified document that lists the name of the holder, the achieved learning outcomes, the assessment method, the awarding body and, where applicable, the qualifications framework level and the credits gained. Micro-credentials are owned by the learner, can be shared, are portable and may be combined into larger credentials or qualifications. They are underpinned by quality assurance following agreed standards.*

As stated by the authors of this report, the proposed definition is intended to be valid across all sectors of education and the world of work. It also appears to mirror the societal mission of higher education institutions.

This definition is likely to be adopted in the future EU documents, and therefore we will use it as a starting point in the discussion on the ENHANCE micro-credentials framework.

The ENHANCE micro-credentials framework is the systematic description of concepts, rules, procedures and processes related to micro-credentials, developed and implemented at the ENHANCE universities.

An essential part of the micro-credentials framework is the micro-credential template.

The micro-credential template is a precisely defined list of critical information elements that describe a micro-credential. Such critical information elements must give complete information essential for the learner (micro-credential holder) and other interested stakeholders, e.g. employers.

In this sense, the proposed EU standard for constitutive elements of micro-credentials, introduced by the European Commission Consultation Group, essentially defines elements of

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[10] *Micro-credentials linked to the Bologna Key Commitments*, Desk research report, European project MICROBOL, September 2020
https://microcredentials.eu/wp-content/uploads/sites/20/2020/09/MICROBOL-Desk-Research-Report.pdf
[11] *A European Approach to Micro-Credentials: Output of the Micro-Credentials Higher Education Consultation Group*, December 2020
https://ec.europa.eu/education/education-in-the-eu/european-education-area/a-european-approach-to-micro-credentials_en

a micro-credential template. We rely on that standard when defining *the ENHANCE micro-credential template*. The general statements on the subsequent micro-credential elements of this generic information structure are interpreted in the context of expectations and needs formulated in the ENHANCE Proposal, submitted in February 2020 and experience with the work on this project, but also, at least to some extent, national and institutional determinants.

The key part of the work on the development of the ENHANCE micro-credentials framework, including the micro-credentials template, is to define the *micro-credentials typology*[12]. The ENHANCE micro-credentials typology defines the types of micro-credentials and, for each type, specifies its name and its basic characteristics (see section 5).

4. Development of the ENHANCE micro-credentials framework – assumptions

When developing the ENHANCE micro-credentials framework and, in particular, the ENHANCE micro-credentials typology, it is assumed that this framework:
- is applicable not only to jointly developed ENHANCE micro-credentials (defined in the ENHANCE Proposal, and other ones to be developed within the initial 3-year project period and in the future), but also – at least to some extent – to the existing and planned short-term forms of education offered by each Alliance university[13],
- is applicable to micro-credentials offered not only to traditional students (students enrolled for bachelor, master or doctoral degree programmes), but also addressing the needs of learners of all age groups from secondary school onwards[14].

In order to promote trust in ENHANCE micro-credentials across different countries and educational and economic sectors, we have to make our framework easily understood and recognisable by potential beneficiaries. It should comply with the emerging European standards and, at the same time, be flexible enough to allow for the development of various types of micro-credentials which would be attractive for a wide spectrum of traditional and non-traditional students, not limited to students of the Alliance universities. We should, therefore, avoid overregulation – excessive rules and constraints that would make the ENHANCE micro-credentials framework difficult to adapt to the current and future developments at the level of the Alliance and its individual universities and expected regulations at the European level. This might be not an easy task taking into account the diversity of existing concepts for micro-credentials (globally) and on-going work in this area.

5. ENHANCE micro-credentials typology

As stated earlier, the key part of the work on the development of the ENHANCE micro-credentials framework, including the micro-credential template, is to define the micro-credentials typology (taxonomy). The ENHANCE micro-credentials typology, as the name indicates, defines the types of micro-credentials. Each type is defined by its name and its basic characteristics that include:
- profile (focus/orientation of learning outcomes and content),
- primary target group (traditional students, life-long learners),
- typical forms of learning activity (course/MOOC, series of courses/MOOCs covering specific topics, summer schools etc.),
- quality assurance mechanisms, including methods for assessment of learning outcomes,
- specification of the workload (whether or not the number of ECTS points is given and, if so, the range of ECTS points that can be assigned),

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[12] It can also be referred to as the ENHANCE micro-credentials taxonomy or classification of ENHANCE micro-credentials.
[13] In addition to micro-credentials compliant with the ENHANCE micro-credentials framework, each university can develop and offer their students/learners other types of micro-credentials.
[14] As declared in the Mission Statement of the ENHANCE Alliance.

- specification of the level (whether or not the reference/assignment to the EQF level is given),
- stackability (whether or not it may be combined into larger credentials or qualifications),
- examples from the ENHANCE Proposal,
- examples from the educational offer of the ENHANCE universities.

The proposed typology of ENHANCE micro-credentials is given in Annex 2.

Regarding the names of micro-credentials, the proposed typology uses terms given, as examples, in the earlier cited MICROBOL report, where two categories of certificates (academic and professional, with professional being awarded by non-academic institutions) and various types of badges are defined.

Our typology conceptually follows the general classification of micro-credentials proposed by the German Rectors Conference (Hochschulrektorenkonferenz)[15] in which micro-degrees and badges are identified as two major types of micro-credentials.

The following remarks can be made regarding the proposed typology:
- It follows the recommendation of being simple, flexible and easy to extend. In particular, subcategories of micro-credentials within each of the identified type of micro-credentials have been proposed. However, they serve mainly for information purposes and are not seen as components of names of micro-credentials used in formal documents. it is probably better to postpone more detailed considerations regarding these subcategories, especially their names, until upcoming decisions/recommendation at the European level are taken.
- Borders between the proposed types of micro-credentials and, in particular, between their subcategories, are – at this stage of the development of the typology – somewhat blurred and will likely remain that way, as this is also the case with other classifications of micro-credentials.

It should be emphasised that the proposed typology is intended for ENHANCE micro-credentials, i.e. micro-credentials bearing the ENHANCE logo and automatically recognised among the ENHANCE universities. This means that individual universities can offer and award other types of micro-credentials.

6. Development process

The proposal for the ENHANCE micro-credentials template has been developed by the working group composed of 23 members representing all Alliance universities and the Student Forum and led by Warsaw University of Technology.

It has been presented, discussed and consulted at the institutional level in all ENHANCE universities using the procedure established autonomously by each institution.

Short reports on the progress of the work, in particular on the development of the ENHANCE micro-credentials typology, have been presented at meetings of the statutory bodies of the Alliance (VPs for Education, Steering Committee).

The draft version of this report has been sent for comments to the following associated partners:
- Le Groupe des Écoles Centrale,

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[15] *Micro-Degrees und Badges als Formate digitaler Zusatzqualifikation*, Empfehlung der 29. Mitgliederversammlung der HRK am 24. November 2020, https://www.hrk.de/positionen/beschluss/detail/micro-degrees-und-badges-als-formate-digitaler-zusatzqualifikation/

- ASIIN Consult GmbH,
- SEFI,
- Siemens.

This version of the report, revised on the basis of the outcomes of the consultation process submitted by 30 June, will be presented to the ENHANCE Steering Committee – the body which will make the final decision on its adoption.

7. ENHANCE micro-credentials template

As mentioned earlier, the information structure in the ENHANCE micro-credentials template will follow the EU standard for constitutive elements of micro-credentials proposed in December 2020 by the European Commission Consultation Group[16].

According to this standard, a micro-credential (document obtained by a person who is awarded that micro-credential) contains the following elements:
1. Identification of the learner
2. Title of the micro-credential
3. Country/region of the issuer
4. Awarding body
5. Date of issuing
6. Notional workload needed to achieve the learning outcomes (in ECTS, wherever possible)
7. Level (and cycle, if applicable) of the learning experience leading to the micro-credential (EQF and/or national qualifications framework; Overarching Framework of Qualifications of the European Education Area)
8. Learning outcomes
9. Form of participation in the learning activity (online, onsite or blended, volunteering, work experience)
10. Prerequisites* needed to enrol in the learning activity
11. Type of assessment (testing, application of a skill, portfolio, recognition of prior learning, etc.)
12. Supervision and identity verification during assessment* (unsupervised with no identity verification, supervised with no identity verification, supervised online or onsite with identity verification)
13. Quality assurance of the credential and, where relevant, of the learning content
14. Grade achieved*
15. Integration/stackability options* (standalone, independent micro-credential / integrated, stackable towards another credential)
16. Further information*

Some of these elements, marked with an asterisk (*), are optional.

In what follows, all these elements are described and interpreted in the context of the ENHANCE micro-credentials framework, thereby defining the ENHANCE micro-credentials template.

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[16] *A European Approach to Micro-Credentials: Output of the Micro-Credentials Higher Education Consultation Group*, December 2020,
https://ec.europa.eu/education/education-in-the-eu/european-education-area/a-european-approach-to-micro-credentials_en

7.1. Identification of the learner

The learner is identified through his/her personal data:
a) first and last name(s),
b) date of birth,
c) nationality,
d) student identification number or code (if available)[17],
e) other data, specified in the standard to be adopted in the European Higher Education Area.

7.2. Title of the micro-credential

Following the proposed typology of ENHANCE micro-credentials (see Annex 2), two basic names/titles of micro-credentials are introduced:
- certificates,
- badges[18].

In this way we distinguish between ECTS-bearing micro-credentials with the rigid quality assurance, including thorough formal assessment of learning outcomes (certificates) and the other type of micro-credentials (badges).

As stated earlier, this idea conceptually follows the general classification of micro-credentials proposed by the German Rectors Conference, in which micro-degrees and badges are identified as two major types of micro-credentials.

There are two types/categories of ENHANCE certificates:
- certificates of academic achievement, alternatively referred to as academic certificates,
- certificates of specialisation/professional achievement, alternatively referred to as specialisation certificates.

The major distinction between these two categories of certificates is made on the basis of their profile (focus, content, learning outcomes) and the primary target group:
- for certificates of academic achievement (academic certificates), their learning outcomes and content, comprising an essential component of knowledge, focus on specific (sub)area/discipline of engineering or transdisciplinary competences; such certificates are primarily intended for traditional bachelor, master or doctoral students,
- for certificates of specialisation/professional achievement (specialisation certificates), their learning outcomes and content focus on application of knowledge and/or development of skills in some (sub)area/discipline relevant for the labour market or professional development/career; such certificates are primarily intended for life-long learners who want to change their skills portfolio to increase their competitiveness in the labour market, but do not see a degree programme as a viable education option.

The example certificates of academic achievement to be developed jointly by the Alliance within the initial 3-year project period (as stated in the ENHANCE Proposal) include:
- ENHANCE Certificate in sustainable entrepreneurship and innovation,
- ENHANCE Certificate in responsible innovations (awarded following the formal assessment of learning outcomes defined for MOOC "Responsible innovators of tomorrow"),
- ENHANCE Certificate in sustainable cities (awarded following the formal assessment of learning outcomes defined for the summer school on sustainable cities).

The certificates of specialisation/professional achievement to be developed jointly by the Alliance within the initial 3-year project period (as stated in the ENHANCE Proposal) include:

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[17] this is included in the Diploma Supplement
[18] We have decided not to use the term "label" proposed in the ENHANCE Application, as it is infrequently used in the literature on micro-credentials and can be misunderstood.

- ENHANCE Certificate in higher education teaching (intended primarily for academic staff of Alliance universities, but open to academic staff of other universities),
- ENHANCE Certificate in digital transformation (awarded following the formal assessment of learning outcomes defined for the life-long learning course on digital transformation, developed jointly by the Alliance).

In some cases, it might be quite difficult to decide whether to classify a particular micro-credential as a certificate of academic achievement or a certificate of specialisation/professional achievement. However, this does not create a significant problem because this classification is rather informal – used primarily for information purposes. Besides, most features of these two types of certificates, in particular those related to quality assurance, are identical or similar. Their profile (academic or professional) will be determined by the description of learning outcomes, in which the relevant profile can be specified explicitly.

Badges are seen as a means to confirm specific knowledge or, more frequently, transversal 21st century skills and/or personal or social competences of learners (traditional or non-traditional students), acquired through various forms of learning activity offered or organised by the ENHANCE universities.

The main difference between certificates and badges lies in the approach to the assessment of learning outcomes. In case of certificates, the assessment procedures are very formal, whereas badges can be awarded on the basis of rather non-formal assessment of learning outcomes or even on the basis of participation in learning activities.

There are two types/categories of ENHANCE badges:
- badges of achievement which are based on a wide spectrum of education provision open to general public (traditional and non-traditional students of all age groups); this can include some courses developed for the purpose of degree programmes or continuing education, made available (usually in the form of MOOCs) to other learners with no credit awarded, but also special offerings that respond to the needs of various groups of society (secondary school students, senior citizens etc.),
- badges awarded for service-based learning and volunteering[19], offered primarily to traditional students for their work for the benefit of local communities or society at large; such service-based learning can, for example, be associated with supporting elderly people in dealing with digital transformation, or various activities supporting the ENHANCE Alliance (serving on the ENHANCE bodies, involvement in organising ENHANCE events and other form of integrating the ENHANCE community, promoting the ENHANCE Alliance etc.).

This differentiation is not reflected in the names of badges, i.e., the term "badge" is used for both categories.

The example micro-credentials to be developed jointly by the Alliance within the initial 3-year project period, that can be called badges, mentioned in the ENHANCE Proposal, include:
- ENHANCE Badge in data literacy[20],
- ENHANCE Badge – student ambassador, awarded for promoting the ENHANCE Alliance in local schools.

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[19] Volunteering is one of the forms of participation in the learning activity that could lead to a micro-credential, explicitly mentioned in the standard for constitutive elements of micro-credentials, introduced by the European Commission Consultation Group (see section 7.9).
[20] In the ENHANCE Proposal, this prospective macro-credential is called "ENHANCE Label in data literacy". However, as explained earlier, we have decided not to use the term "label", as it is infrequently used in such a context and can, therefore, be misunderstood.

7.3. Country/region of the issuer

See section 7.4.

7.4. Awarding body

Awarding a micro-credential jointly by the Alliance creates a number of problems related to, inter alia, legal regulations and quality assurance, similar to those encountered when joint degrees/diplomas are issued by institutions from different countries. It has, therefore, been decided that micro-credentials are awarded by individual universities – members of the ENHANCE Alliance on behalf of the Alliance. This means that the certification document will be signed by an eligible person from the relevant university and both the logo of that university and the logo of the ENHANCE Alliance will appear on the printed version of the document.

In case of a micro-credential that involves education activities offered by a single university, this solution appears quite obvious and easy to implement.

The matter gets more complicated if a micro-credential comprises learning activities carried out by different universities, i.e. is to be awarded:
- upon completion of a certain number of learning units/modules offered by different universities[21],
- upon completion of a module developed and taught jointly by academic staff of two or more universities[22].

In this case, the following solutions are possible:
a) the micro-credential is awarded by the home university of the learner,
b) the micro-credential is awarded by the university which had the leading role in the development of this micro-credential,
c) the micro-credential is awarded by the university which offers most learning activities associated with this micro-credential.

As solution (a) might create difficulties with non-traditional students and even more serious problems with students from outside of the Alliance, either (b) or (c) is to be adopted. The decision might be made for all ENHANCE micro-credentials of the considered category or each micro-credential individually.

7.5. Date of issuing

The date of issuing an ENHANCE micro-credential (a document obtained by the learner who is awarded that micro-credential) should correspond to the date when all requirements associated with that micro-credential are satisfied by the learner.

7.6. Notional workload needed to achieve the learning outcomes (in ECTS, wherever possible)

In principle, ENHANCE certificates are assigned ECTS points. The possible exceptions for some specialisation/professional certificates can be considered, especially in case when the difficulties in measuring of the learner's effort or developing a dependable learning outcomes assessment procedure are encountered.

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[21] This is likely to be the case with the *ENHANCE Certificate in higher education teaching*, being developed within WP3, task 3.3: content of Higher Education Innovator.
[22] This happens, for example, when the Collaborative Online International Learning (COIL) concept is applied.

Regarding the range of ECTS points assigned to certificates, two somewhat contradictory premises should be considered:
- a micro-credential should confirm some essential/meaningful volume of learning outcomes so that it would be worth being included it in the person's CV/portfolio,
- lower limit would increase flexibility (stackability) of micro-credentials.

The most flexible solution would be to set a minimum of 1 ECTS point with an upper limit of "less than a full degree". It is recommended, however, that ENHANCE certificates are assigned at least 3 ECTS points.

In contrast to certificates, badges are not assigned ECTS points.

7.7. Level (and cycle, if applicable) of the learning experience leading to the micro-credential (EQF and/or national qualifications framework; Overarching Framework of Qualifications of the European Education Area)

As each ENHANCE micro-credential has learning outcomes defined (see section 7.8), potentially we can assign an EQF level to it – by mapping those learning outcomes onto the European Qualifications Framework (EQF). In practice, however, such a mapping might be quite difficult to do as EQF level descriptors are formulated in rather general terms. In particular, in the case when transdisciplinary skills and personal or social competencies are major components of the set of learning outcomes, it might be quite difficult to justify mapping them onto a particular EQF level. Therefore, we assume that:
- ENHANCE certificates are assigned EQF levels; the possible exceptions for some specialisation/professional certificates can be considered;
- badges of achievement can or cannot be assigned EQF levels, depending on the definition of their learning outcomes and possibility to refer them to the EQF,
- service-based badges are not assigned EQF levels.

Another decision related to levelling of ENHANCE micro-credentials is whether or not micro-credentials at EQF level lower than 6 can be offered. Taking into account that we intend to offer an opportunity to obtain ENHANCE micro-credentials to a wide spectrum of learners, developing and offering some micro-credentials at level 5 is a reasonable solution.

7.8. Learning outcomes

A set of guidelines is to be developed on how to define and present learning outcomes for ENHANCE micro-credentials in a consistent way[23].

As many ENHANCE micro-credentials (certificates and selected badges) are to be assigned EQF levels, we should formulate their learning outcomes so that to make mapping those learning outcomes onto the EQF as simple as possible. This means that the recommended method of formulating and presenting the learning outcomes for ENHANCE micro-credentials is to classify them, explicitly or implicitly, in three categories that are used in the definition of the EQF level descriptors, i.e. *knowledge*, *skills* and *responsibility and autonomy*[24].

For micro-credentials intended primarily for life-long learners seeking professional development, formulating and presenting the learning outcomes so that to make them compliant with the ESCO[25] might be an alternative.

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[23] This task is related to defining learning outcomes for degree programmes (another task in WP2)
[24] *Council Recommendation of 22 May 2017 on the European Qualifications Framework for lifelong learning and repealing the recommendation of the European Parliament and of the Council of 23 April 2008 on the establishment of the European Qualifications Framework for lifelong learning* (2017/C 189/03), Annex II, Official Journal of the European Union, 15.06.2017
[25] European Skills, Competences, Qualifications and Occupations (ESCO), https://ec.europa.eu/esco/portal [accessed 12 July 2021]

7.9. Form of participation in the learning activity (online, onsite or blended, volunteering, work experience)

A wide spectrum of different forms of learning activities that could lead to an ENHANCE micro-credential are envisioned.

These forms can be classified with regard to:

a) the mode of delivery (determined by physical proximity of the teacher and the learner)

   The basic modes are: on-site/on-campus, on-line and blended. When different forms of participation are possible and the learner can select one of them (on-site/blended or on-line), we would refer to such a form as hybrid.

b) organisation of the learning activity

   Possible forms of the learning activity organisation are: course (in particular, MOOC), group of courses (MOOCs), training/workshop, summer school, service-based learning, volunteering etc.

c) timeframe

   Some forms of learning activity (courses, training sessions, summer schools, …) are offered in a specific timeframe, whereas other forms (some MOOCs, most service-based learning and volunteering activities) allow for self-paced learning. For activities offered in a specific timeframe, the total number of contact hours can be specified.

7.10. Prerequisites needed to enrol in the learning activity

This element is optional, but for some ENHANCE micro-credentials, especially for certificates, specification of prerequisites needed to enrol in the learning activity, might be useful and recommended.

In general, such prerequisites should be defined in terms of knowledge and skills expected from the learner. Only in specific cases, formal requirements (such as holding a university degree in specific subject area) are to be formulated.

7.11. Type of assessment (testing, application of a skill, portfolio, recognition of prior learning, etc.)

Various types/methods of learning outcomes assessment can be adopted, depending on the type of a micro-credential, learning outcomes and forms of participation in the learning activity (mode of delivery, organization of the learning activity). Generally, for certificates, the assessment procedures are formal and comprehensive, whereas badges can be awarded with significantly less formal methods of assessment or even based on participation in learning activities.

Whatever methods of learning outcomes assessment are adopted for a particular micro-credential, they are part of the micro-credential description.

7.12. Supervision and identity verification during assessment* (unsupervised with no identity verification, supervised with no identity verification, supervised online or onsite with identity verification)

This element is optional, but in case when the assessment of learning outcomes for a particular micro-credential involves tests/examinations, the method of supervision and identity verification during assessment is part of the micro-credential description.

7.13. Quality assurance of the credential and, where relevant, of the learning content

It has been decided that micro-credentials are awarded by individual universities – members of the ENHANCE Alliance on behalf of the Alliance (see section 7.4). Therefore, the principles and procedures for quality assurance used by universities for their degree programmes (based on internal procedures or national quality assurance mechanisms) should also be applied to micro-credentials. This is essential for micro-credentials bearing ECTS points. However, the appropriate quality assurance in line with the Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG) should also be adopted for other micro-credentials.

An alternative solution, i.e. relying on an international quality assurance agency (ASIIN, ENAEE/EUR-ACE, …) might be considered as an option that would make a particular ENHANCE micro-credential more attractive for life-long learners seeking their international visibility and recognition among prospective employers. But such solution should not be seen as the one applicable to all ENHANCE micro-credentials.

Regardless of the approach taken, the quality assurance process is the part of the ENHANCE micro-credential description.

It should be taken into account that the implementation of a complex quality assurance system for ENHANCE micro-credentials would be difficult, especially at the beginning of a project. It would, therefore, be more useful to agree on some basic standards and enhance them based on experience gained with pilot implementations.

The problem of assuring quality of ENHANCE micro-credentials should also be considered in a wider context – assuring quality of all jointly developed components of the ENHANCE education offer.

7.14. Grade achieved*

This element is optional. However, the grade might be an essential element of the description for some micro-credentials, especially those that are stackable and can be recognised as a partial fulfilment of the requirement for a degree. If grades are given, the grading system of the university that awards the micro-credential is adopted.

Then, some grade conversion tool available to all European universities, such as EGRACONS[26], can be applied If the grade is to be interpreted in the context of a degree programme offered at some other university.

7.15. Integration/stackability options* (standalone, independent micro-credential/ integrated, stackable towards another credential)

Micro-credentials can be:
- stand-alone, independent units of learning; this is usually the case with micro-credentials relevant for the labour market or professional development; most badges also belong to this category;
- a unit of learning (course, module) or an internally coherent composition of a number of units of learning related to a specific topic or field, being a component of one or more conventional bachelor, master or doctoral degree programmes or non-degree programmes offered to life-long learners; such a unit of learning or collection of units of learning is obviously stackable, i.e. can be recognised as a partial fulfilment of requirement for a "larger" credential/qualification.

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[26] EGRACONS: Grade Conversion System, http://egracons.eu [accessed 25 June 2021]

It would be desirable to decide to what extent parts of degree programmes offered by ENHANCE universities can be converted into micro-credential (determine criteria for such a conversion) and offered as such to those who, for various reasons, do not see a degree programme as a viable education option.

In this context, it is worth emphasizing the fact that a collection of micro-credentials is not a substitute for a bachelor or master degree; it might, however, be a valuable addition to the university degree.

7.16. Further information*

Besides the constitutive elements (defined in the proposed EU Standard) included in a document owned by the learner, the characteristics of a micro-credential may, optionally, include additional information. Any further information on a particular micro-credential may serve two purposes:
- providing a person who considers participation in the education activity leading to this micro-credential with additional information that would facilitate his/her decision,
- making the document obtained by the learner more valuable/informative for stakeholders (employers etc.).

Such additional information can be the part of the micro-credential template or just the part of the description of a particular micro-credential presented to prospective learners on the portal that contains the ENHANCE education offer.

For an ENHANCE micro-credential, its basic characteristics (described in sections 7.1 – 7.15) can be complemented with the information on:
- general orientation/profile and primary target group (academic, research-oriented, professional, focus on transversal skills, general interest, …),
- language(s) of instruction,
- availability (limited to selected groups of students, e.g. students enrolled for degree programmes at ENHANCE universities, open to general public, etc.),
- duration – time it takes to complete the education/training activities necessary to get this micro-credential, if not specified in the description of the form of participation in the learning activity; this time usually remains undefined for self-paced learning,
- fees, if applicable, for registration, examination, issuing a document confirming the micro-credential etc.,
- form of the document acknowledging the micro-credential (digital-only, paper document, other options),
- partnership with external organisation (e.g. not limited to ENHANCE associated partners) in developing the micro-credential,
- appreciation (employers or employers' associations recommendation, professional associations acceptance for licensing purposes etc.)

and possibly other information.

In case of a micro-credentials with a specified EQF level, the field (ISCED code[27]) can be additionally specified in line with "Elements for data fields for the electronic publication of information on qualifications with an EQF level"[28].

In general, the need for additional information and its scope are to be determined individually for a particular micro-credential. As alluded to earlier, such information can be included in the

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[27] International Standard Classification of Education (ISCED), https://ec.europa.eu/eurostat/statistics-explained/index.php?title=International_Standard_Classification_of_Education_(ISCED) [accessed 12 July 2021]

[28] *Council Recommendation of 22 May 2017 on the European Qualifications Framework for lifelong learning and repealing the recommendation of the European Parliament and of the Council of 23 April 2008 on the establishment of the European Qualifications Framework for lifelong learning* (2017/C 189/03), Annex VI, Official Journal of the European Union, 15.06.2017

"Further information" part of the document acknowledging the micro-credential or be part of the micro-credential description presented by the ENHANCE Alliance and the university awarding the micro-credential to potential learners.

8. Implementation

8.1. Technical aspects

Regarding the digital representation of ENHANCE micro-credentials, the Europass Digital Credentials Infrastructure[29] or some other accepted standard should be used.

For the delivery and recognition of digital credentials based on the Europass learning model, an integrated system being developed by ECCOE (European Credit Clearinghouse for Opening up Education)[30] can be a viable option, as Politecnico di Milano is one of the partners in this project.

However, during the initial testing period, internal procedures for issuing credentials existing at the Alliance universities will be applied to the process of issuing micro-credentials.

Ultimately, the critical information elements of each ENHANCE micro-credential issued by one of the Alliance universities, defined by the ENHANCE micro-credentials template, must be available to the micro-credential holder, but also to other interested stakeholders (other higher education institutions, employers, etc.).

It remains to be decided whether all these information elements should be included in a single document or be distributed between the main document and its supplement (like in the case of a diploma acknowledging a bachelor or master degree[31]). Such a decision should, however, be made at the European level.

8.2. Proof of concept testing

The proposed template will be tested in the process of development of specific ENHANCE micro-credentials. Currently, the *ENHANCE Certificate in higher education teaching*, being developed within WP3 (task 3.3: content of Higher Education Innovator) is used for that purpose.

In the coming months, the template will be tested using prospective micro-credentials associated with:
- summer school climate change (possible final project: green campus),
- language tandems.

9. Future developments

The delivery of the template for ENHANCE micro-credentials (publication of the report) in July 2021 does not end the work on the ENHANCE micro-credentials framework. The template will likely to be adjusted to the developments taking place in the coming months and years, taking into account, in particular:
- further consultation with external stakeholders, including associate partners,

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[29] Europass Digital Credentials Interoperability, https://europa.eu/europass/en/europass-digital-credentials-interoperability [accessed 27 May 2021]
[30] European Credit Clearinghouse for Opening up Education, https://eccoe.eu/developing-synergies-2 [accessed 12 July 2021]
[31] A document acknowledging a micro-credential should be clearly identified as such and differ from a diploma acknowledging a bachelor or master degree.

- implementation issues (other activities within WP2.2),
- initiatives of institutions of the European Union and developments taking place within the European Higher Education Area[32],
- experience with application of the proposed template to ENHANCE micro-credentials being developed in 2021-2023,
- experience with application of the micro-credentials framework, including the proposed template, to various forms of short-term education provision (MOOCs, short programmes etc.) offered individually by the Alliance universities (currently and in the near future).

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[32] Consultation process initiated by the European Commission in May 2021; Commission proposal for a Council Recommendation on micro-credentials for lifelong learning and employability (expected in the last quarter of 2021); Adoption by the Council of Ministers of the Council Recommendation on micro-credentials for lifelong learning and employability, incl. common definition and EU standard (2022); definition and key features / standards for micro-credentials to be adopted within the EHEA, together with the 2024 Communiqué of the Bologna Process Ministerial Conference

Short forms of education provision conceptually closed to micro-credentials offered by the ENHANCE universities to their students and life-long learners

I.   **Offer for students (parts of degree programmes or extracurricular courses)**

Chalmers
- Some MOOCs can be combined into a Micro-Master's degree. This degree can becredited towards course work corresponding to 22,5 ECTS in some specific Chalmers' Master of Science programmes after enrolment in such programmes

NTNU
- ATHENS courses (intensive one-week courses for local and international students)

PoliMi
- extracurricular courses (Passion in Action), ECTS, digital badge, note in DiplomaSupplement

RWTH
- Micro-Bachelor (in Data Literacy); 3 basic courses + 4 advance course; planned as part of all RWTH degrees programmes

TUB
- Sustainability Certificate, sequence of courses, 6 ECTS each course,18 ECTS for theCertificate
- TUB Summer University Online Program 2021, multiple courses, ECTS (countingtowards a degree for students; open to non-students)
- Interdisziplinäre Gender Studies, module of 6 courses, 30 ECTS
- Chinakompetenz, 3-6 courses or module and/or language course, 18 or 36 ECTS, open to students from Berlin and non-students)

UPV
- Specialised training courses, max 15 ECTS, extracurricular courses, certificate of completion (or attendance) of the course or training, level 5 or 6

WUT
- specialised design courses (Creative Semester Project etc.), ECTS, certificate(counting towards a degree or extracurricular activity)
- summer schools, workshops etc. at advanced level (offered by Centre for AdvancedStudies), certificate
- ATHENS courses (intensive one-week courses for local and international students)

II.   LLL provision (stand-alone courses/programmes)

- professional development
- general interest (personal development)

1. MOOCs

   Chalmers (specialised advanced-level MOOCs)
   - on edX [global outreach, no ECTS, certificate on request]

   NTNU (MOOCs of general interest)
   - on FutureLearn [global outreach, no ECTS, certificate on request]
   - on digit.ntnu.no (Open edX)/Canvas [national outreach, 7.5 ECTS, certificate]
   - on digit.ntnu.no (Open edX) [national/regional/local outreach, no ECTS, certificate]

   PoliMi (MOOCs of general interest)
   - on pok.polimi.it [national outreach, no ECTS, certificate of accomplishment]

   RWTH
   - online software courses (for MATLAB, Python, R and Excel) for all students – additional voluntary course to build and improve IT skills (no ECTS).

   UPV (MOOCs of general interest)
   - on edX [global outreach, no ECTS, certificate on request]
   - on upvx (Open edX) [national/regional/local outreach, no ECTS, no credential]

   WUT (specialised MOOCs)
   - on navoica.pl (Polish MOOC platform) [national outreach]

2. part-time non-degree programmes [mostly professional development, certificate ofcompletion]

   NTNU
   - post-graduate, minimum 30 ECTS (legal regulation), 30-45 ECTS, EQF level: 6,7,8

   UPV
   - post-graduate, 15-30 ECTS (legal regulation), EQF level 7
   - post-graduate, 30-60 ECTS (legal regulation), EQF level 7
   - post-graduate, 60+ ECTS (legal regulation), EQF level 7
   - graduate, 15-30 ECTS (legal regulation), EQF level 6

   WUT
   - post-graduate, minimum 30 ECTS (legal regulation), 30-45 ECTS, EQF level: 6,7,8

3. specialised training [professional development]

   NTNU
   - training in innovative teaching (obligatory for NTNU academic staff), no ECTS, no EQF level, certificate of completion
   - foreign language training (for NTNU staff and students), no ECTS, no EQF level,certificate of completion

   TUB
   - Intercultural Knowledge and Competence (for TUB community), 3 ECTS, EQF level: 6,7, certificate

UPV
- wide spectrum of topics, maximum 15 ECTS (legal regulation), EQF level: 5,6, certificate of completion or certificate of attendance

WUT
- wide spectrum of topics, no ECTS, no EQF level, certificate of completion
- foreign language training (for WUT staff), no ECTS, no EQF level, certificate ofcompletion
- training in innovative teaching (for WUT academic staff), no ECTS, no EQF level,certificate of completion
- training in management (for WUT academic staff), no ECTS, no EQF level, certificateof completion

4. other

UPV
- "Senior University", series of lectures or training sessions (wide spectrum of topics of general interest) for senior citizens, no ECTS, no EQF level, certificate of completion or certificate of attendance

WUT
- series of lectures or training sessions (wide spectrum of topics of general interest) forsenior citizens, no ECTS, no EQF level, certificate of completion or certificate of attendance
- series of lectures or workshops for children, no ECTS, no EQF level, certificate ofparticipation

ENHANCE micro-credentials typology

type/category	sub-type/sub-category (for information/internal use)	content, focus	target group	typical form of learning activity[33]
certificate[34]	academic certificate or certificate of academic achievement	- learning outcomes, activities and formative assessment in a specific (sub)area/discipline of engineering or transdisciplinary competences - essential component of knowledge	mostly "traditional" bachelor, master and doctoral students	- group of courses from a first- or second-cycle degree programme focused on some specific topic - special purpose course/MOOC[35] (or a group of courses/MOOCs) - short learning programme (group of courses/MOOCs with a common subject) - summer school
	specialisation certificate or certificate of specialisation /professional achievement	- learning outcomes, resources, activities and assessment in a specific (sub)area relevant for the labour market or professional development/career - focus on application of knowledge and/or development of skills	mostly life-long learners	- dedicated/specialisation course - short learning programme (group of courses/MOOCs with a common subject) - workshop/training session
badge	badge of achievement	- learning outcomes, resources, activities and (automated) feedback in specific area of academic or professional knowledge, transversal 21st century skills and/or personal or social competences	general interest (students and life-long learners); for personal and professional development (in case of supplementary learning, students can be given note in Diploma Supplement)	- special purpose course/MOOC (or a group of courses/MOOCs) - bootcamp/workshop/training programme - special offerings responding to the needs of various groups of society (secondary school students, senior citizens etc.),
	service-based badge	- personal or social competences resulting from service-based learning	"traditional" bachelor, master and doctoral students	- various forms of service-based learning of students, incl. volunteering

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[33] various delivery modes (face-to-face/on-campus, on-line, blended, hybrid) are possible
[34] „larger" certificates in this category (corresponding to a group of courses etc.) can be referred to as micro-degrees
[35] the term MOOC is used in a broad sense (including SPOC - Small Private On-line Course)

type/category	sub-type/sub-category (for information/internal use)	quality assurance	ECTS	EQF	stackability
certificate	academic certificate or certificate of academic achievement	formal summative assessment of learning outcomes by ENHANCE universities	YES minimum 3 ECTS (recommended)	YES level 5, 6, 7 or 8	- stackable: may be combined into larger credentials or qualifications (in particular, ECTS earned can be applicable towards a degree) or - stand-alone: essential component in student supplemental qualification (given note in the Diploma Supplement)
	specialisation certificate or certificate of specialisation /professional achievement	formal summative assessment of learning outcomes by ENHANCE universities or automated verification of completion of task requirements	YES (in principle, exceptions possible) minimum 3 ECTS (recommended)	YES level 5, 6, 7 or 8	- stackable: may be taken in connection with other course offerings or - stand-alone: an entity by itself
badge	badge of achievement	micro-credential can be awarded on the basis of participation/task completion	NO	YES or NO level 5,6,7	stand-alone
	service-based badge	micro-credential awarded for task completion	NO	NO	stand-alone

type/category	sub-type/sub-category (for information/internal use)	examples from the ENHANCE proposal	examples from the educational offer of ENHANCE universities
certificate	academic certificate or certificate of academic achievement	- ENHANCE Label in climate action (?) - ENHANCE Certificate in sustainable entrepreneurship and innovation - MOOC "Responsible innovators of tomorrow" - ENHANCE summer school on climate action - ENHANCE summer school on sustainable cities	Chalmers: specific MOOCs combined into a Micro-Master's degree RWTH: Micro-Bachelor in Data Literacy NTNU, WUT: ATHENS courses (intensive one-week courses for local and international students) TUB: Sustainability Certificate TUB: Interdisziplinäre Gender Studies UPV: specialised training courses (extracurricular) WUT: specialised design courses (Creative Semester Project etc.) all ENHANCE universities: selected MOOCs (with assessment provision)
	specialisation certificate or certificate of specialisation /professional achievement	- ENHANCE life-long learning course leading to micro-credential in digital transformation - ENHANCE life-long learning course leading to micro-credential in transformation for the green economy - ENHANCE Certificate in higher education teaching	NTNU, UPV, WUT: post-graduate part-time non-degree programmes NTNU: training in innovative teaching (obligatory for NTNU academic staff) TUB: Intercultural Knowledge and Competence (for TUB community) UPV: specialised training courses (extracurricular) WUT: training in innovative teaching, training in management (for WUT academic staff) all ENHANCE universities: selected MOOCs (with assessment provision)
badge	badge of achievement	- ENHANCE Label in data literacy - ENHANCE Label in climate action (?)	PoliMi: part of Passion in Action offer WUT, UPV: series of lectures or training sessions (wide spectrum of topics of general interest) for senior citizens (WUT's University of the Third Age, UPV's Senior University) RWTH: online software courses (for MATLAB, Python, R and Excel) for all students – additional voluntary course to build and improve IT skills (no ECTS).
	service-based badge	- various forms of service-based learning (to be defined)	