

Quality of Credentials in Open Education

Pathways and technologies for recognition, transparency and portability

Anthony F. Camilleri – Knowledge Innovation Centre
Florian Rampelt – German Forum for Higher Education in a Digital Age



Context

The recognition and transfer of individual credits through ECTS was created for an era of physical mobility, and is optimised accordingly. Bologna tools and EU instruments, such as the ECTS, ESG, diploma supplement and the EQF, support the **accreditation, award and recognition of qualifications** in the areas of formal learning, and only extremely broadly recognition procedures for non-formal and informal learning.

Problematization

Open Educational Providers are creating **parallel systems of credentials** that are not even described in terms of ECTS and ESG – leading to a situation where millions of students per year are enrolling in open courses offered by **universities** and other educational institutions which do not necessarily award valid or recognised forms of credit.

Problematisation

Differences between formal and non-formal education are becoming less clear leading to the need for clarification of contexts and standards.



OEPass was designed to address these issues

1

Definition of Quality Credentials

2

Enhance Transparency of Quality Credentials by creating a Learning Passport (Diploma Supplement for ECTS)

3

Propose Technological Methods to Strengthen Automatic Exchange of Recognition Information

4

Clarify Concepts around Open Recognition (identity, assessment, QA, workload estimation etc)

5

Study and Predict the Impact of Open Education Recognition (scenario building)

Partners

- Duale Hochschule Baden-Wurttemberg (DHBW), Germany
- Budapest University of Technology and Economics (BME), Hungary
- European Distance and E-Learning Network (EDEN), United Kingdom
- Knowledge Innovation Centre (KIC), Malta
- Lithuanian Association of Distance and e-Learning (LieDM), Lithuania
- Stifterverband für die Deutsche Wissenschaft e.V., Germany
- Tampere University of Technology (TUT), Finland
- Universidad nacional de educación a distancia (UNED), Spain

Examples of Credentials



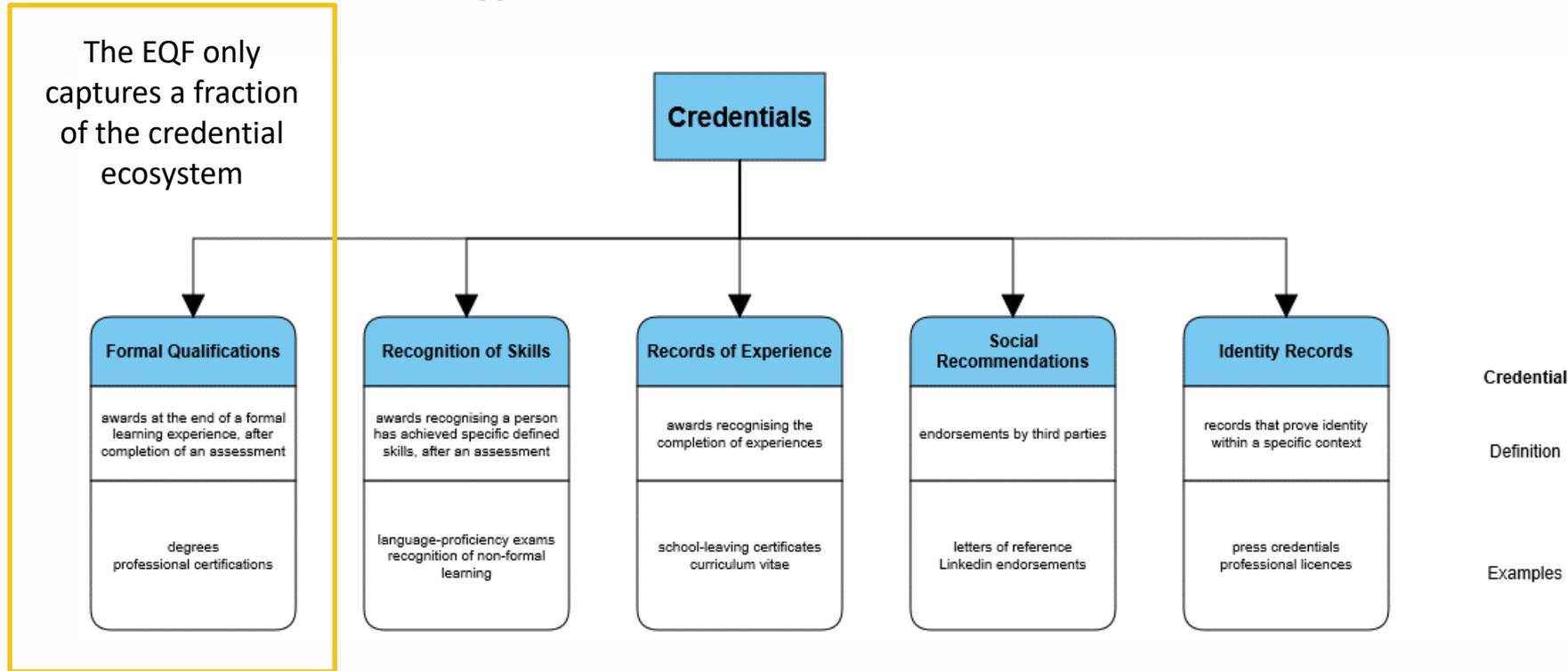
- All these credentials are offered by universities alongside their typical (qualification) offerings – however differences between them are not made clear and some are also offer by other (non-accredited) education providers
- Part of Digital Credentialing Ecosystem made possible by digital communications technologies establishing networks of interest through which people share information about what a learner knows and can do



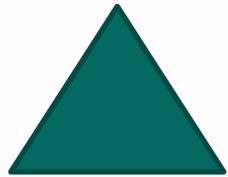
Definition of a Credential

A credential, in its most essential form, is a **documented statement** awarded from one party to another describing the latter's **qualities**. Credentials are used for the purpose of **proving to a third party** the information that the holder has achieved certain **learning outcomes** and thus **qualifies for something**.

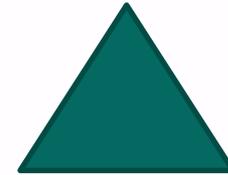
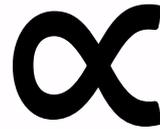
Types of Credentials



A Basic Assumption



Recognition
& Portability
of credentials



Overall
Quality
of credentials

A view of (inherent) credential quality

	Learning Outcomes	Quality of Learning	Level of Learning	Workload of Learning	Assessment of Learning Outcomes	Identity of Learner	Identity & Reputation of Issuer
Credential	<ul style="list-style-type: none"> ○ Red ○ Orange ○ Green ○ No Info 	<ul style="list-style-type: none"> ○ Red ○ Orange ○ Green ○ No Info 	<ul style="list-style-type: none"> ○ Red ○ Orange ○ Green ○ No Info 	<ul style="list-style-type: none"> ○ Red ○ Orange ○ Green ○ No Info 	<ul style="list-style-type: none"> ○ Red ○ Orange ○ Green ○ No Info 	<ul style="list-style-type: none"> ○ Red ○ Orange ○ Green ○ No Info 	<ul style="list-style-type: none"> ○ Red ○ Orange ○ Green ○ No Info

(Based on Nuffic, 2018 & Witthaus et al., 2016)

The inherent quality of a credential describes the **quality and reputation of the statement.**

Who decides on the reputation of an issuer?

- An accreditation agency?
- The open education provider?
- The learning community, e.g. through endorsement?



A Quality Statement alone does not make for a Quality Contract



CONTRACT TO SELL

This Contract to Sell made and executed by and between:

_____, a corporation organized and existing under Philippine laws, with principal office at Pres. Magsaysay St., Villa Aurora, Mabolo, Cebu City herein represented by its President, _____, (the "VENDOR");

- and -

_____ (the "VENDEE, irrespective of number");

WITNESSETH: That -

WHEREAS, the VENDOR is the registered and beneficial owner of a parcel of land located at _____ with an area of _____ (____) square meters, more or less, and covered by Transfer Certificate of Title No. _____ of the Registry of Deeds for the Province of _____, a copy of which is attached hereto and made integral part hereof as *Annex "A"* (the "Subject Property");

WHEREAS, the Vendee has offered to buy the Subject Property on installment basis and the Vendor has accepted the offer, subject to the following terms and conditions:



(Digital)
Credentials
are Broken

Shards of the Problem

- Limited Access to Underlying Information
- Credentials are still not digital
- Lack of (Technical) Standards for Credential Information
- Closed Standards for Security & Verification
- No Aggregation of Credential Data

Limited Access to Underlying Information

Northwestern University

What does this mean?
What does he know?

NORTHWESTERN UNIVERSITY HAS CONFERRED THE DEGREE OF

BACHELOR OF ARTS

LIPON

KHANH C. DU

WHO HAS HONORABLY FULFILLED ALL THE REQUIREMENTS PRESCRIBED
BY THE UNIVERSITY FOR THAT DEGREE
DONE AT EVANSTON ILLINOIS THIS EIGHTEENTH DAY OF JUNE IN THE
YEAR ONE THOUSAND NINE HUNDRED AND NINETY-FOUR A.D.

Howard J. Treman
CHAIRMAN OF THE BOARD OF TRUSTEES

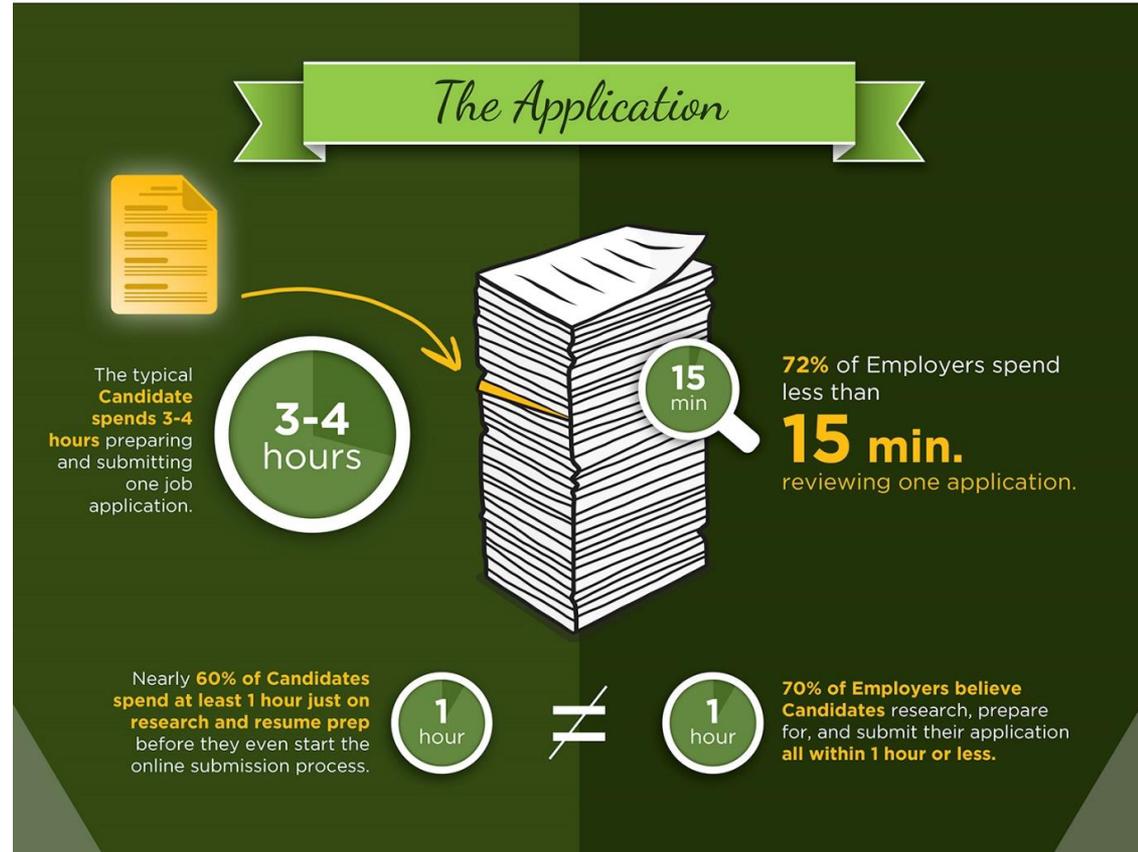
Jaes Park Jr.
SECRETARY OF THE BOARD OF TRUSTEES



Ronald R. Weber
PRESIDENT OF THE UNIVERSITY

Lawrence B. Duman
DEAN

The average employer will not research your credentials



The average employer will not research your credentials

If it costs an employer more to **verify a credential** than to **test the skills**, the credential is effectively worthless.

Paper
credentials are
hard to use
and share

Online Store

Navigation

- Home
- Product Catalogue >
- Conferences & Events >
- Short Courses >
- Help & Information >

All Departments

Search this Site

Help

My Account

Shopping Basket

Items: 2 £20.00

Home > Product Catalogue > Official Documents and Letters > Transcripts

Graduate / Leavers Transcript (Graduate 2002 onwards)



Description

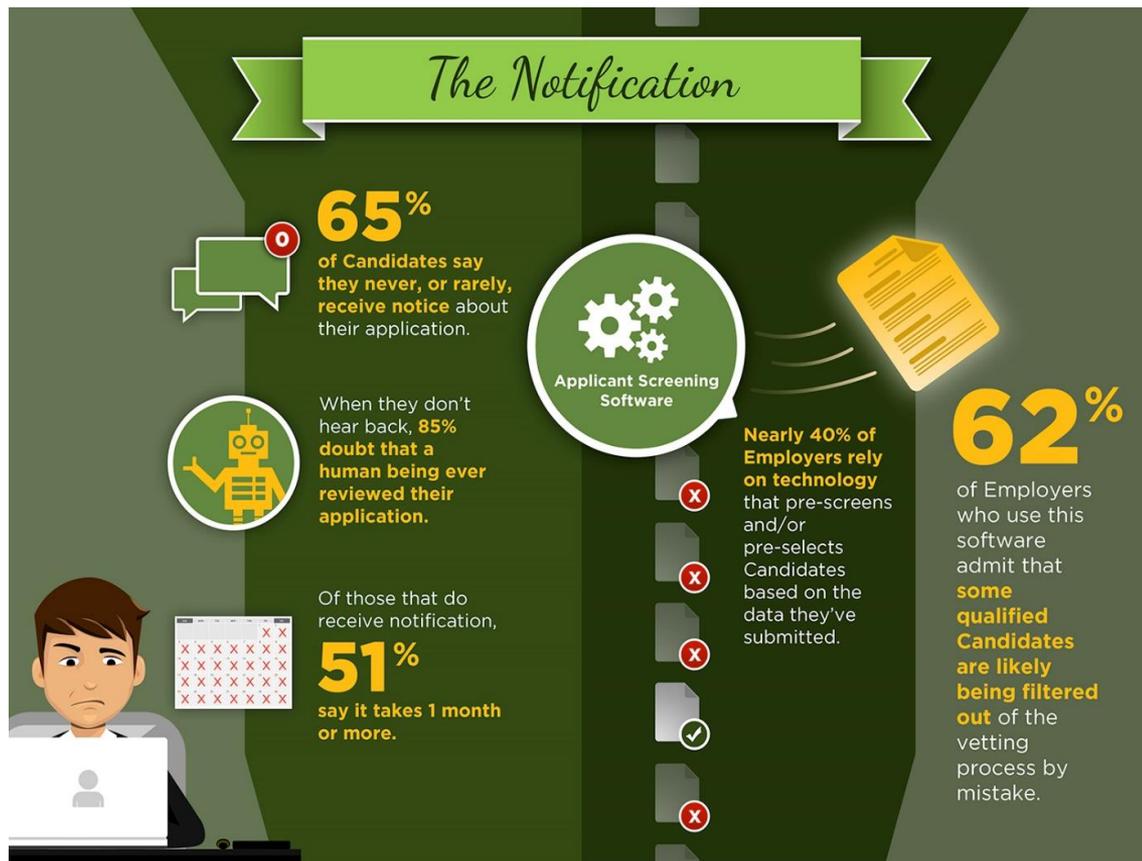
Graduate/leavers transcripts can be requested if you graduated or have withdrawn from the University of Nottingham from 2002 onwards. These documents can take up to five working days to produce. This does not include the delivery period.

If you choose to have this document sent by courier there will be an additional cost of £30 at checkout. This will provide a more secure delivery and in some instances a quicker delivery service. **If you wish to use a courier, please note that they will not deliver to PO Box addresses.**

[Information - please read before ordering.](#)

- **BMBS or BMedSci Graduate Transcripts can be ordered [here](#)**
- **Pre-Reg Nursing and Midwifery Transcripts can be ordered [here](#)**
- This order is only for students who graduated or withdrew from the University after 2002.
- Graduate transcripts confirm your final degree classification along with a breakdown of modules and marks.

Lack of Technical Standards leads to exclusion



Closed Standards for Security and Verification

Sales: 1-877-720-2040 Access Documents Log In

DocuSign Products Solutions Pricing Support Resources **FREE TRIAL** CONTACT SALES

General Plans and Pricing

[View DocuSign for Real Estate Editions](#)

Choose the #1 eSignature solution with the leading System of Agreement platform

ANNUAL MONTHLY

Personal	Standard	Business Pro	Advanced Solutions
\$10 per user \$120 annually	\$25 per user, per month \$300 annually	\$40 per user, per month \$480 annually	Call for more info: 1-877-720-2040
BUY NOW	BUY NOW	BUY NOW	SCHEDULE A CALL
Single user only	For more than 1 user, call 1-877-720-2040	For more than 1 user, call 1-877-720-2040	All of our Business Pro features, plus:
Send documents for eSignature: 5/month	Send documents for eSignature	Send documents for eSignature	Integrations, connectors
Basic fields	Basic fields	Basic fields	API's
	Personalized branding	Personalized branding	SSO
	Comments	Comments	Advanced branding
		Collect Payments	Customizable usage limits

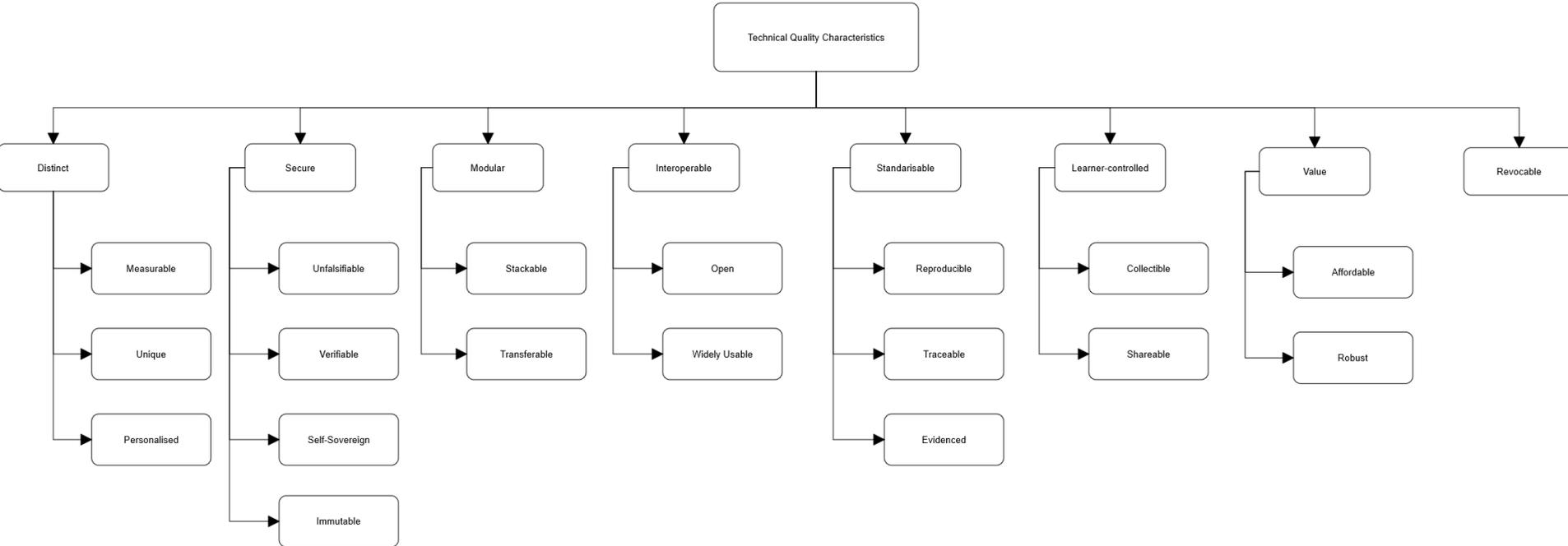
No Aggregation
of Credential
Data





A lack of principles leads to a piecemeal approach

Technical Quality Characteristics for Digital Credentials (Quality Principles)



Technical Quality of Credentials

The Bologna Process
has focused

on the **modularity** and
transparency of credentials

Modularity

Characteristic	Definition (The credential should...)	Standardisation aspect (The standard for issuing the credential should...)	Technology aspect (The technology for issuing the credential should...)
Stackable	be modular, allowing for credentials of the same type to be added together to form a greater whole	describe standardised unit to be used by the credential	allow for relational links to be created between credentials
Transferable	allow for conversion into different credentials	describe how credentials may be transformed into other credentials	allow for a credential to consist of a set of other credentials

Transparency

Characteristic	Definition (The credential should...)	Standardisation aspect (The standard for issuing the credential should...)	Technology aspect (The technology for issuing the credential should...)
Open	be issued according to (open) published standards	be published	allow for the credential and its standards to be linked
Widely Usable	be readable by the maximum number of people and software systems:	ensure the issue of credentials in in a widely-spoken language(s) or in a easy to read graphical format	describe the credential using a widely-accepted and freely-available meta-data standard and file format;



**Bologna only
addresses a
fraction of the
problem**

One example: Security & Data Protection

Characteristic	Definition (The credential should...)	Standardisation aspect (The standard for issuing the credential should...)	Technology aspect (The technology for issuing the credential should...)
Unfalsifiable	not be falsifiable	N/A	not permit the holder to issue or modify a credential
Verifiable	allow for its authenticity to be verified	include a way to keep evidence of the issue of the credential	should include a verifiable receipt of issue
Self-sovereign	be proof of its statement, in and of itself.	N/A	allow for the authenticity of the credential to be verified without resort to third parties
Immutable	not be changeable	ensure that the statement remains true for the period of validity of the credential	ensure that the credential cannot be edited.

Ensuring the Quality of Digital Credentials implies



Actions to Improve Credential-Quality

“a common technical approach for issuing digitally-signed qualifications will be developed to ensure that certificates from one Member State can be understood and correctly interpreted in any other. The approach will be based on open standards and integrated into the new Europass platform, where digitally-signed qualifications can be stored and shared.”

EU Digital Education Action Plan
Action 3: Digitally Signed Qualifications

Recommendations for EU & EHEA

1. Extend concepts of recognition and portability to all credentials.
2. A European Agency for the Quality of Credentials could publish recommendations on the quality of different formats and technologies behind open education.
3. The next revision of the ESGs should consider the value of the credentials issued by an institution within their criteria including questions related to technology.
4. A "Bologna Digital" should include the discourse on technologies and infrastructures & focus on a comprehensive technical standard for credentials, encompassing all technical characteristics.

Recommendations for Innovators

1. Degrees are the gold standard of credentials for good reason – they should be emulated.
2. Innovators that ignore the technical quality of their credentials, lower the quality of their outputs
(exception for global brands with unparalleled inherent quality)

Guiding Questions on Quality of Credentials

Overall Questions

- Do we need quality principles for credentials?
- How do we begin building a unitary credential architecture for formal, non-formal and informal learning? How do we exit the 'Bologna Box'?

Inherent Quality of Credentials

- Which suitable standards already exist?
- Is there a role for credentials issued by non-teaching institutions? How could an endorsement system beyond formal accreditation look like?

Technical Quality of Credentials

- Which technological standards are most crucial for broad useage and interoperability?
- What is the most suitable forum to bring together educators, standardisation experts and techies?

THANK YOU FOR YOUR ATTENTION

Anthony F. Camilleri – anthony@knowledgeinnovation.eu
Florian Rampelt – florian.rampelt@stifterverband.de

You can download this presentation at:

The European Commission support for the production of this publication does not constitute an endorsement of the contents which reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein.

This work is licensed under a Creative Commons Attribution ShareAlike 4.0 International License.

You are free to:

Share — copy and redistribute the material in any medium or format

Adapt — remix, transform, and build upon the material
for any purpose, even commercially.

The licensor cannot revoke these freedoms as long as you follow the license terms.

Under the following conditions:

Attribution — You must give appropriate credit, provide a link to the license, and indicate if changes were made. You may do so in any reasonable manner, but not in any way that suggests the licensor endorses you or your use.

ShareAlike — If you remix, transform, or build upon the material, you must distribute your contributions under the same license as the original.

No additional restrictions — You may not apply legal terms or technological



Co-funded by the
Erasmus+ Programme
of the European Union

DAAD