Critical success factors and Methodological Framework for Evaluation Process of OER's

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DECriS
Digital Education for Crisis Situations: Times when there is no alternative (DECriS

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IO3 Title: A List of critical success factors and their typological classification for the evaluation of the OER's

There are two main goals of this Intellectual Output:

The first goal is, based on **Literature Review (incl. current publications 2020-2022) to be prepared a** List of critical success factors and their typological classification for the evaluation of the OER's.

The second goal is the **critical success factors** to be separated and organized in a form of a **methodological framework** which will be available to higher education institutions for evaluation processes of OERs.

With such a methodological and evaluation framework the DECriS project aims to bring the new elements in the evaluation of OERs and their use in time of crisis and beyond.

Objectives and research questions

Given the complexities involved in defining and practicing with Open Educational Resources as well as the growing empirical examination of OERs, especially of their use during the COVID-19 crisis and special periods without face-to-face teaching, a review is necessary.

Such a review can synthesize the various aspects (theoretical, methodological, didactical, technical etc.) regards to the evaluation of OERs in the empirical literature to develop a lens for examining the various research findings. In other words, a thorough review would allow for examination of not only how the evaluation process of OERs is defined, but how the findings relate to the approaches for evaluation of OERs. In addition, the status of the findings on *theoretical, practical, geographical location/country/institutional specifics of experiences and project experiences with OERs*, especially in the COVID-19 crisis, can be synthesized through a review.

Review would provide a better understanding of the existing literature as well as identifying gaps in which more research is needed.

There are four research questions that guide this review:

1. What were commonalities and differences in the evaluation criteria of the quality of Open Education Resources across studies?

2. What were the findings of criteria for evaluation of Open Educational Resources extracted from theoretical works (such as UNESCO guidelines and recommendations and similar documents)?

3. What were the findings of criteria for evaluation of Open Educational Resources extracted from experience based works of educators and project managers? Including the findings from IO1 and IO2 of DECriS project.

4. What were commonalities and differences in the evaluation criteria of the quality of Open Education Resources across geographical location/country/institution specifics of experiences?

Method. Inclusion criteria

Studies were considered relevant if they:

1. described themselves as examining Open Educational Resources issues

2. described themselves as focused on evaluation of Open Educational Resources

3. reported empirical data on experiences with Open Educational Resources (both qualitative and quantitative studies are eligible)

Relevant studies were searched for systematically.

Studies had to be **in English**.

Scope of sources

First, two scholarly databases for searching: Web of Science (WoS) Core collections and SCOPUS

Second, Google Scholar

Third, websites of organizations (such as UNESCO, IFLA, EBLIDA and others) and relevant project websites

Keywords/phrases for search: Open Educational Resources, Open Educational Resources*, OER, Open Educational Resources AND Evaluation; Open Educational Resources AND Factors

Scope of research:

For Web of Science (WoS) Core collections, SCOPUS and Google Scholar: **01.01.2020-01.02.2022**, the period of pandemic COVID-19 and the use of Open Educational Resources (OERs) enriching and improving of distance education in crisis situations

For other sources: documents from websites of organizations (such as UNESCO, IFLA, EBLIDA and others) and relevant project websites – on researcher's decision

3 Stages of application

Implementation of the research method (stages 1-2)

As a result from the screening and assessment of **abstracts** (Web of Science (WoS) Core collections, SCOPUS, Google Scholar) and **documents** (from websites of organizations (such as UNESCO, IFLA, EBLIDA and others) and relevant project websites) - were identified **core articles and documents** with relevance based on the inclusion criteria, for further **full texts qualitative analyses and synthesis**.

- Records assessed for eligibility, based on inclusion criteria to be included (n = 199)

- **Total records** selected for text analysis/qualitative analysis: **71**

- Full-papers - 54; Other documents and websites – 17

INTRODUCTION

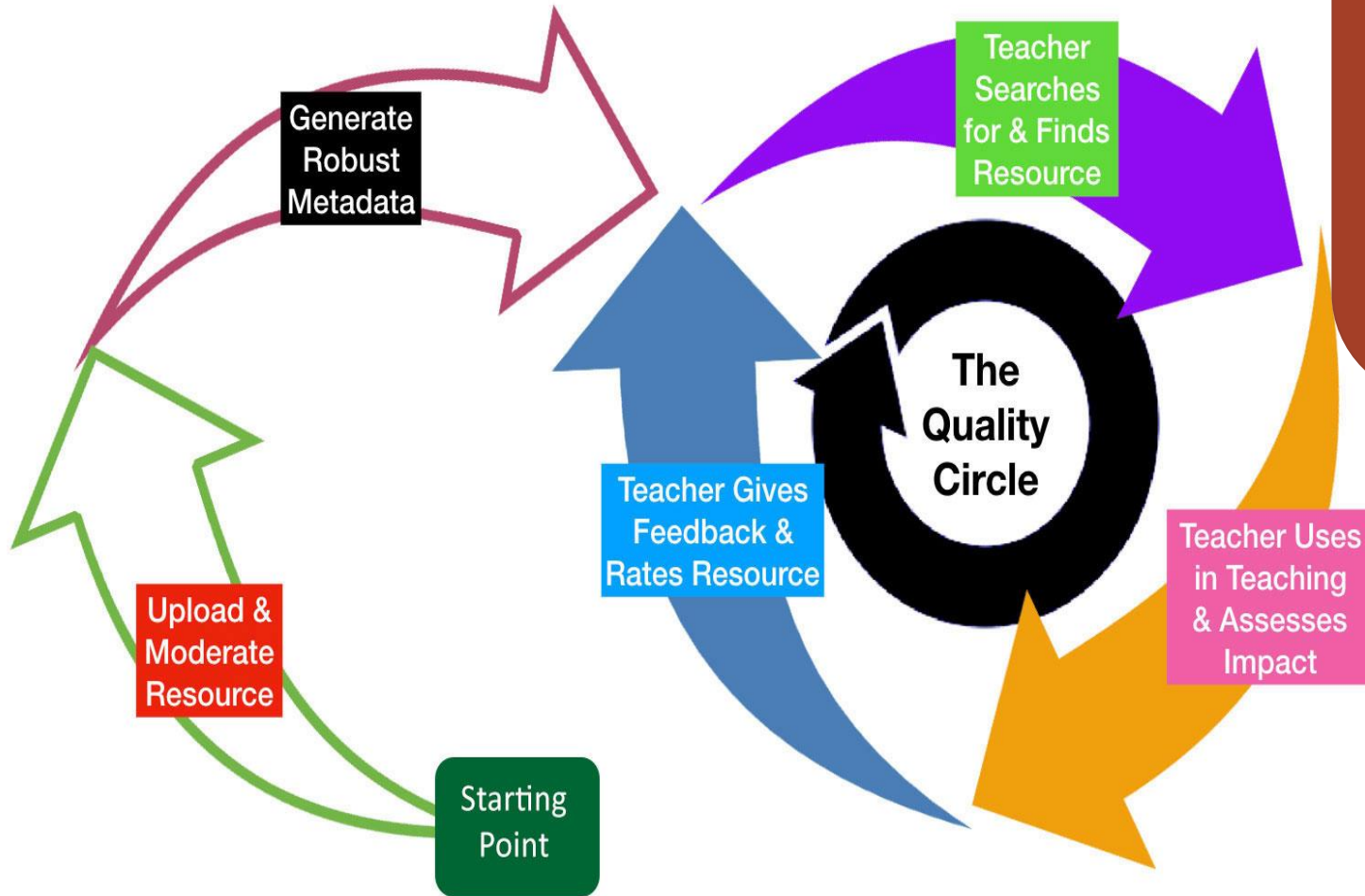# DEFINITION OF TERMS

CLASSIFICATION AND MAIN ADVANTAGES/DISADVANTAGES OF OERs

'QUALITY' AND OERs

An effective repository should allow the educator to complete this 'quality circle', from discovery, to use, to professional evaluative feedback, and the process can then be repeated as many times as necessary. However, the authors underlined that the concept of a Quality Circle might be consciously implemented in repositories in order to develop a model of collective intelligence relevant and appropriate, but there is no one-size-fits all (Connell, M. & Connell, J., 2020:46).

Figure 4. A Simple Outline of the Notion of the 'Quality Circle' in Relation to OER (Connell, M. & Connell, J., 2020: 10)

Camilleri, Ehlers and Pawlowski in their **"State of the Art Review of Quality Issues Related to OER"** (Camilleri et al., 2014) set out the following features, some of which are universal or general while others are more specific to a particular instance of use by which it might be possible to come to an understanding of the quality of a learning resources:

- **Efficacy -** – by this is meant the fitness for purpose of the object / concept being assessed. Within the context of OER, this might include concepts such as ease-of-reuse or educational value.

- **Impact** – impact is a measure of the extent to which an object or concept proves effective. Impact is dependent on the nature of the object / concept itself, the context in which it is applied and the use to which it is put by the user.

- **Availability** – the concept of availability is a pre-condition for efficacy and impact to be achieved, and thus also forms part of the element of quality. In this sense, availability includes concepts such as transparency and ease-of-access

- **Accuracy -** accuracy is a measure of (a) precision and (b) absence of errors, of a particular processes or object.

- **Excellence -** excellence compares the quality of an object or concept to (a) its quality-potential, i.e. the maximum theoretical quality potential it can reach.

In taking forward these characterizations of quality, Connell, M. & Connell, J., 2020: 10) propose a conceptual framework built around three sets of quality approaches:

▪ **Quality Assurance of Resources** – … a lifecycle model to understand the quality factors affecting individual resources, including their creation, use and evaluation

▪ **Quality Assurance of Strategies / Policies** – using a maturity model… the institutional development of policies which govern and promote the creation of OER

▪ **Quality Assurance of Learning** – … course-specific quality assurance, including processes of teaching, assessment and recognition

(Connell, M. & Connell, J., 2020: 12-13): **Quality assurance** components to develop effective and fully-functioning OER repositories such as:

Featured resources;

User evaluation tools;

Peer review;

Authorship;

Keywords;

Metadata;

Multilingual support;

Social Media support;

Creative Commons Licences

Source Code of Original Files

They note too, in passing, that applying the process of resource-creation to OER is necessarily more complex than the same process applied to traditionally-produced resources, given the potential multiplicity of facets of authorship, sharing, modification, use and re-use in OER. (Connell, M. & Connell, J., 2020: 10-11).

In the Literature Review we mentioned the proposed criteria in many other sources, such as:

- **Affordable Learning Georgia** set out the following guidelines for teachers for evaluation of OER: Clarity, Comprehensibility, and Readability; Content Accuracy and Technical Accuracy; Adaptability and Modularity; Appropriateness; Accessibility; Supplementary Resources;

- **Checklist for evaluating the quality of an OER from CEDEC** including 13th indicators;

- **Five Quality Verticals quality assurance in Open Education by Bulathwela et al (2019):** Understandability, Topic Coverage, Freshness of Information, Presentation, and Authority.

and others.

DEVELOPMENT PHASES OF THE CONCEPT OF OER AND OER QUALITY

According to ENCORE+ Project researches, **the concept of OER and OER quality** has gone through **several development phases** with different focus points in research, policy and practice since its introduction in 2001 (Open, 2021: 8).

- **1st phase: During the 2000s up to 2010**, a strong focus was put on **developing** open educational resources from a **resource centric** point of view, meaning a focus on data, metadata, interoperability, media types, definitions, and repositories. The process of searching for OER was at the center of attention, more than the OER themselves and their quality.

- **2nd phase:** An analysis of the research, projects', and initiative environment shows that from **2010 to 2020,** more importance has been put on strategies of institutions, policies, competencies and development of the capacity of **usage, and quality (for learning)**.

- **3rd phase: 2020 – up to now**. Today, **big data and artificial intelligence-based recommendation of learning materials** is within reach.

Position Paper No. 1., titled 'Open Educational Resources and Repositories: the Role of Quality: Towards a community-oriented Quality Review Framework for OER ENCORE+ OER Quality Circle' (2021)

The ENCORE+ initiative takes the issue of quality as a focal point to develop cornerstone aspects of a European Ecosystem of OER Quality within the next three years (2021-2024) and beyond.

Development of the **European open & community-led quality review framework for OER and open education** is already underway.

https://encoreproject.eu/
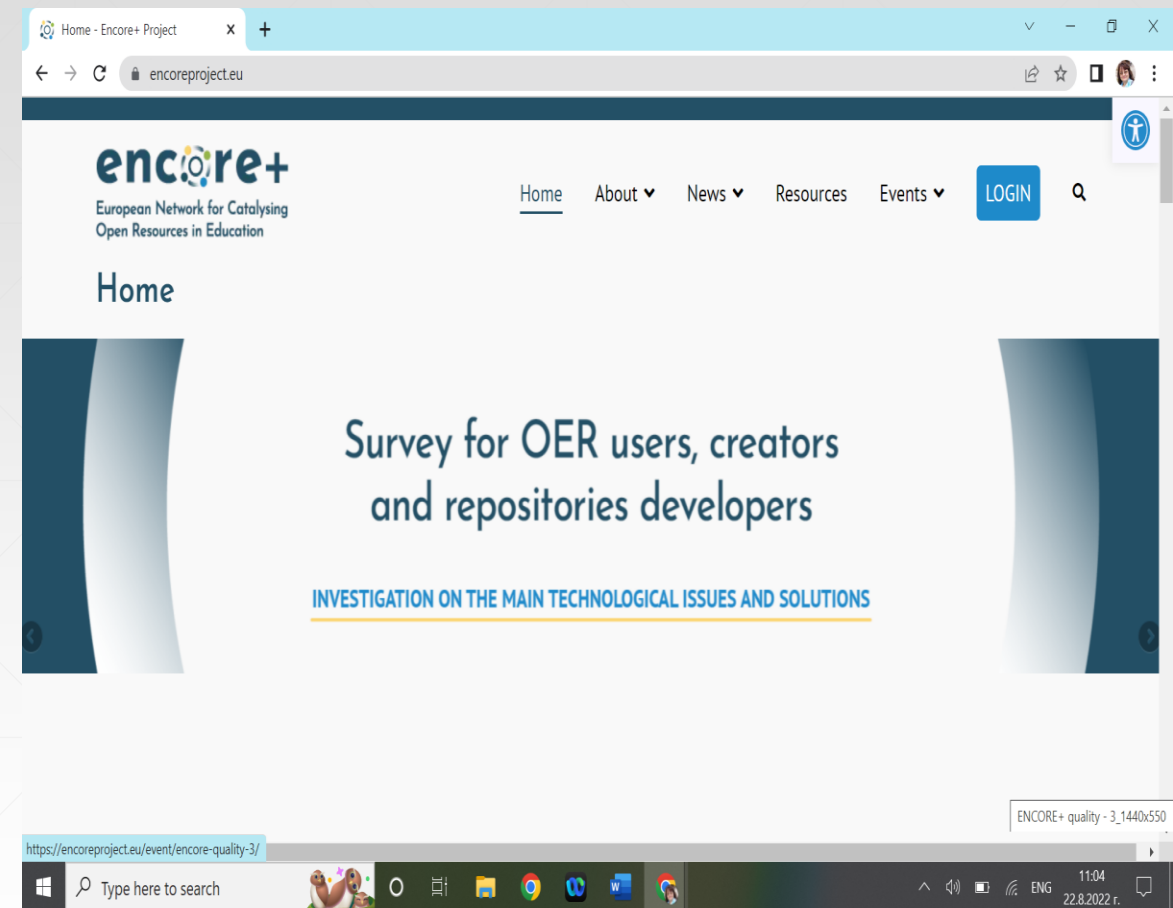
- The ENCORE+ team think that it is important to add to the current focus of quality development in OER a new dimension of **community-oriented value based quality considerations** (Open, 2021: 6). In the discourse on quality assurance, they observe a move away from a focus on quality characteristics towards a new "**quality community view**".

- In the ENCORE+ OER Quality Circle the researchers explore what it takes to set up a **European collaboration for an open OER review community**. In order to engage institutions, businesses, educational professionals and learners into open review communities, **open quality frameworks are needed** as well as **emerging technologies to support them**, such as **Artificial Intelligence**.

Digital Education for Crisis Situations: Times when there is no alternative (DECriS

The concept and goals of the Erasmus+ Project 'Digital Education for Crisis Situations: Times when there is no alternative' (Project: 2020-1-HR01-KA226-HE-094685) **fit into these ongoing discussions and initiatives.**

As a result of research activities in the frame of Intellectual Output 3 (IO3), based on **Literature Review (incl. current publications 2020-2022) -** is presented a **List of critical success factors and their typological classification for the evaluation of the OER's.**

The significance of the various critical success factors must be considered in relation to questions of **overlap, practicality and sustainability** of the OERs.

More so, **The list of critical success factors and their typological classification for the evaluation of the OER's** and the **Methodological Framework** are designed to be in line to the implementation of the further DECriS Erasmus+ project intellectual outputs **IO4** (Case study on how the critical success factors work in practice) and **IO5** (Optimisation of OERs).

IO3 - A list of critical success factors and their typological classification for the evaluation of the OER's

IO4 - Case study on how the critical success factors work in practice

IO5 - Optimisation of OERs

Typological classification of critical success factors for the evaluation of OER's with 4 main vertical layers and sublayers (in alphabetical order)

4 main verticals layers include:
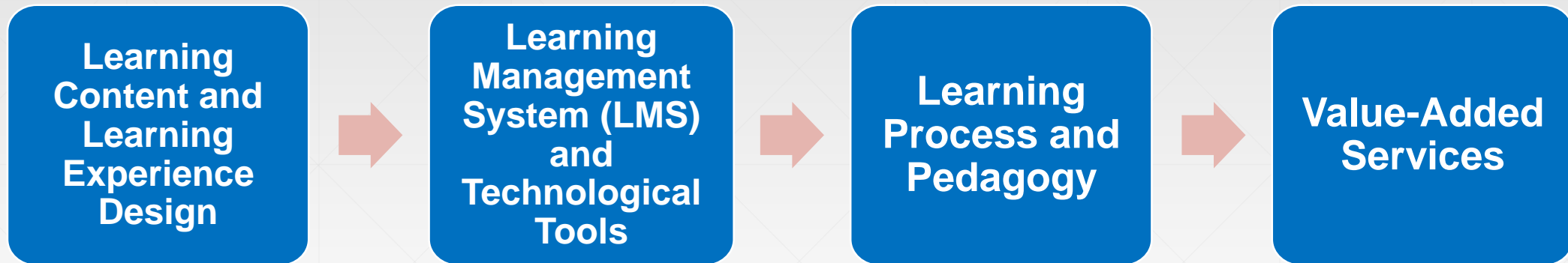
Learning Content and Learning Experience Design	→	Learning Management System (LMS) and Technological Tools	→	Learning Process and Pedagogy	→	Value-Added Services

Learning Content and Learning Experience Design

Accuracy and Comprehensive OER Description with Standardized Metadata

Alignment

Authority

Availability

Breadth of perspectives

Content quality

Convenient, easy of use and cost saving

Interactivity

Learning Management System (LMS) and Technological Tools

LMS and Technological issues

Quality of the Final product/Service

Learning Process and Pedagogy

Accessibility. Inclusiveness and Equality. Cultural relevance

Open Licensing

Pedagogical Goals and Pedagogical Approaches

Student engagement, assessment methods and self-assessment

Value-Added Services

Linguistic accessibility. Understandability

Monitoring and evaluation (tools/mechanisms)

National and International Collaboration

Peer-review process

In IO3 Report we present Literature review

about all suggested critical success factors for the evaluation of OER's

with 4 main vertical layers and sublayers (in alphabetical order)

together with **DISCUSSION**, where it is applicable.

FUTURE PERSPECTIVES OF RESEARCH

SUMMARY

After the critical success factors were separated and organized, this deliverable was prepared in form of a Methodological Framework.

The offered Methodological Framework, titled

"**4Ds for 5Rs of OERs: DECriS Methodological Framework for evaluation of OER's**"

contains 4 main steps which corresponds to the layers of the typological classification of the critical success factors for the evaluation of the OER's as follow:

Domain, Design, Development, Delivery

ensure 5Rs - Retain, Reuse, Revise, Remix and Redistribute of the OERs.

4Ds for 5Rs of OERs: DECriS Methodological Framework for evaluation of OER's

Domain
- Learning Content
- Learning Activities

Design
- Pedagogical Goals and Pedagogical Approaches
- Learning Experience Design
- Open Licensing

Development
- Learning Management System
- Technological Tools and Formats

Delivery
- Accessibility
- Cultural relevance
- Value-added Services

OERs ready for

Retain
Reuse
Revise
Remix
Redistribute
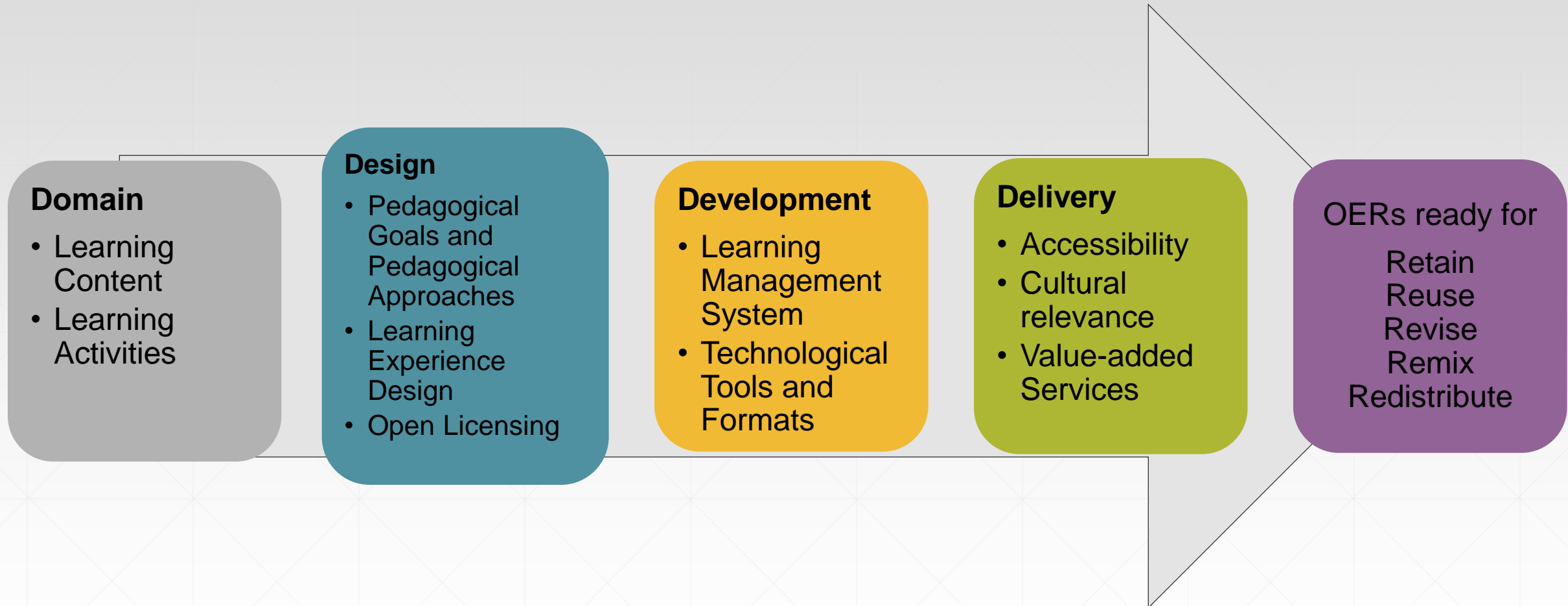
The **Domain** considers the features of Learning Content and Learning Activities. It is the basic step. The knowledge of the domain is significant for the reliable OER.

The **Design** or how to design the Learning Experience according to the Learner-Centred Pedagogical Approach and the first step of the Learning Process.

The **Development** or how to present the content and activities with technology.

The **Delivery** the final step of the Learning Process when the learners have access to the training or just to the learning content and activities. It brings the value-added services to OER developers and users and added value for the evaluation process of OERs.

4Ds for 5Rs of OERs: DECriS Methodological Framework for evaluation of OER's

The quality of a learning resource depends on the demands and requirements both educator and learner rather than on some pre-determined characteristics of the resource (Connell, M. & Connell, J., 2020).

The goal of this framework is to be used in HEIs for evaluation processes of OER's.

There are 5 horizontal elements: Retain, Reuse, Revise, Remix, Redistribute which are in the core of OERs and their digital nature.

The developed OER's could be different types regarding the digital file formats: Text, Audio, Video, and Multimedia which correspond to the Open Textbook, Lecture notes & presentations, Assignments, Quizzes and so on.

Target groups

- Teachers

- Students

- Higher Education Institutions (HEIs)

OER's Title:		
Address/ URL:		
Domain:		
Author:		
Organisation:		
Type: Describe (presentation, video, text, quiz, assessment …)	• Content	• Activity
General score:	• be used further	• not used anywhere
General description:		

Criteria (in alphabetical order)	Points from 1 to 5 (highest) =< 3 is good	Comments
Learning Content and Learning Experience Design		
• Accuracy and Comprehensive OER Description with Standardized Metadata		
• Alignment		
• Authority		
• Availability		
• Breadth of perspectives		
• Content quality		
• Convenient, easy for use and cost saving		
• Interactivity		
Learning Management System (LMS) and Technological Tools		
• LMS and Technological issues		
• Quality of the Final product/Service		

Learning Process and Pedagogy		
• Accessibility. Inclusiveness and Equality. Cultural relevance.		
• Open Licensing		
• Pedagogical Goals and Pedagogical Approaches		
• Student engagement, assessment methods and self-assesment		
Value-Added Services		
• Linguistic accessibility. Understandability		
• Monitoring and evaluation (tools/mechanisms)		
• National and International Collaboration		
• Peer-review process		

CONCLUSION

- As a result of research activities in the frame of Intellectual Output 3 (IO3) of DECriS Project, the presented **Literature Review** covered 71 relevant publications (REFERENCES: List of 71 selected documents for text analysis/qualitative analysis) and other 127 documents and 4 presentations.

- The review synthesizes the various aspects (theoretical, methodological, didactical, technical etc.) regards to the evaluation of OERs in the empirical literature following the guidelines of the established research questions.

CONCLUSION

The review was enriched with findings from IO1 Report *'State-of-the-play of the use of OERs at European higher education institutions in the field of Library and Information Science during the COVID-19 pandemic'*

and from

IO2 Report *'Digital education appraisal and quality perception by students, teachers and trainers at the partner HEIs during the COVID-19 crisis',* especially the Part: 5.3.1. Use and creation of OER during the pandemic).

Current activities: tests how the 4Ds for 5Rs of OERs: DECriS Methodological Framework for the evaluation of OERs work in practice

Evaluation of OER: **video**

Evaluation of OER: video lecture

Център за дистанционно обучение - УниБИТ
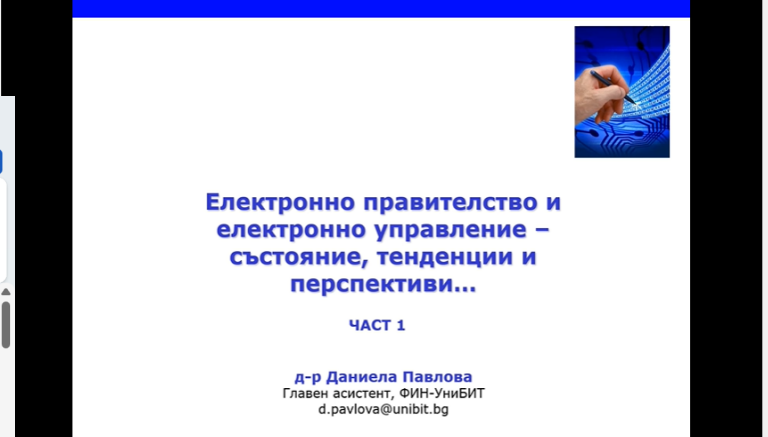
ЛИЧЕН ДЕСКТОП ▾   ДОВЕРЕНИК ▾   АДМИНИСТРИРАНЕ ▾

⚠ ЕЛЕКТРОННО ПРАВИТЕЛСТВО И ЕЛЕКТРОННО УПРАВЛЕНИЕ – СЪСТОЯНИЕ, ТЕНДЕНЦИИ И ПЕРСПЕКТИВИ

Настоящата лекция е посветена на електронното правителство и електронно управление – в нея ще разгледаме състояние, тенденции и перспективи. Ще акцентираме не толкова на моментното състояние, което е динамично, а на общите принципи, на които почива е-управлението и обективните фактори, които могат да му повлияят.

Презентацията има няколко основни акцента, както следва:

- Глобализация и пазарни процеси
- Приложения, технологии и фактори за развитие на е-правителство
- Процеси в административна среда и потребителски модели
- Проблеми и възможни мерки за развитие на е-правителство
- Ролята на образованието и как революцията в образованието би рефлектирала върху електронното правителство

Ще разгледаме също и какви са ползите от информатизацията, както и каква е ролята на т.нар. Главен информационен мениджър или CIO. Лекцията ще завърши с описание на основни елементи на ИКТ модернизацията, както и как е-правителството получава своеобразен тласък от развитието на облачни услуги.

Електронно правителство и електронно управление – състояние, тенденции и перспективи...

ЧАСТ 1

д-р Даниела Павлова
Главен асистент, ФИН-УниБИТ
d.pavlova@unibit.bg

Video lecture OER Daniela-Pavlova • Saved to this PC

Таня Тодорова

DECriS   2020-1-HR01-KA226-HE-094685

IO 4 Course Evaluation Form
Based on 4Ds for 5Rs of OERs - DECriS Methodological Framework for evaluation of OERs

Partner Institution: **University of Library Studies and Information Technologies**
Is this OER used as part of a course at your institution (please mark)? <u>Yes</u> / No
<u>If Yes:</u>
Name of Teacher: **Daniela Pavlova, PhD**
Title of Course: **Electronic governance in the national security system**
Language of Course: **Bulgarian**
Level (BA/MA): **Bachelor's degree program "National Security"**
URL to course description: http://e-learn.unibit.bg/goto.php?target=crs_15300&client_id=iliasLatest
Access after sign up from experts at the Distance Learning Centre at ULSIT

Page 1 of 4   727 words   English (United States)

CONCLUSION

The Literature Review resulted in preparation of a **List of critical success factors and their typological classification for the evaluation of the OERs** (in alphabetical order) and of a Methodological Framework, titled **4Ds for 5Rs of OERs: DECriS Methodological Framework for evaluation of OERs**.

The **List of critical success factors and their typological classification** and **4Ds for 5Rs of OERs: DECriS Methodological Framework for the evaluation of OER's** serve a goal to achieve a good practice in OER design to be enable to promote openness, sharing, reuse of resources and collaboration amongst academic communities, and more concrete in (Library and) Information Science.

Final Report will be available in February 2023 at DECriS website: https://decris.ffos.hr/.

Thank you for your attention!

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