IO4 report – A case study on how the critical success factors work in practice

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DECriS

Erasmus+ Project Digital Education for Crisis Situations:
Times when there is no alternative (DECriS)

https://decris.ffos.hr/

Intended Intellectual Outputs during the project duration 2021 – 2023:

Survey of the state-of-the-play on the use and policy making documents on OERs at European HEIs during the COVID-19 crisis
- Responses by 56 heads of departments in library- and information science from 23 countries

Digital Education appraisal and quality perception by students, teachers and trainers at the partner HEIs during the COVID-19 crisis
- Interviews with 39 lecturers and 10 focus group discussions with students at project partner institutions

Apprenticeship Framework for crisis situations

Optimisation of OERs

Case study on how the critical success factors work in practice

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

Result: Evaluation Framework

4Ds for 5Rs of OERs

DECriS Methodological Framework for evaluation of OERs

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		

Aim of this study

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

- Mapping the success factors to the practices at partners' HEIs

- Obtain a better understanding of the **relation between the success factors and the implementation and use of digital learning resources**, OERs in particular, in separate settings

- **Understanding of critical success factors** for digital learning and use of OERs in time of COVID-19 crisis

Mapping the success factors to the practices at partners' HEIs (IO4)

| IO 3: OER Framework | → | Student Survey | Document Analysis | Delphi study | List of critical success factors | IO 5: Optimization of OER |

Work in progress
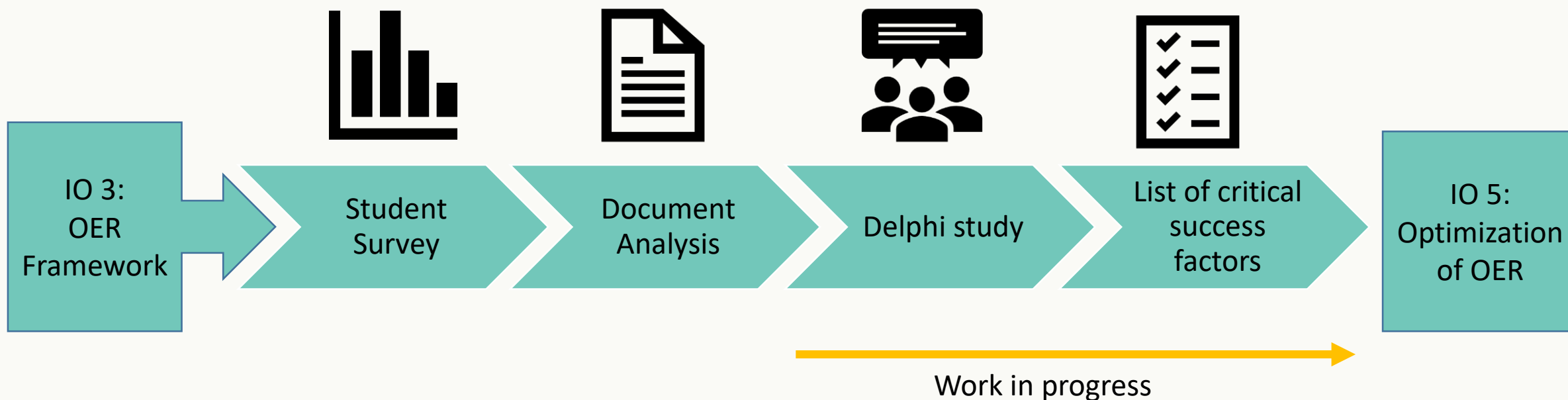
Student Survey on Success Factors

Student survey

- 7 groups of questions on experience with OERs in digital learning
    1. **Innovation of OER**
    2. **Reasons to use OER**
    3. **Challenges and Potential of OER**
- Analysis of Potential success factors
    4. **Learning Content and Learning Experience Design**
    5. **Learning Management System**
    6. **Learning Process and Pedagogy**
    7. **Value-added services**
- 40 questions in total
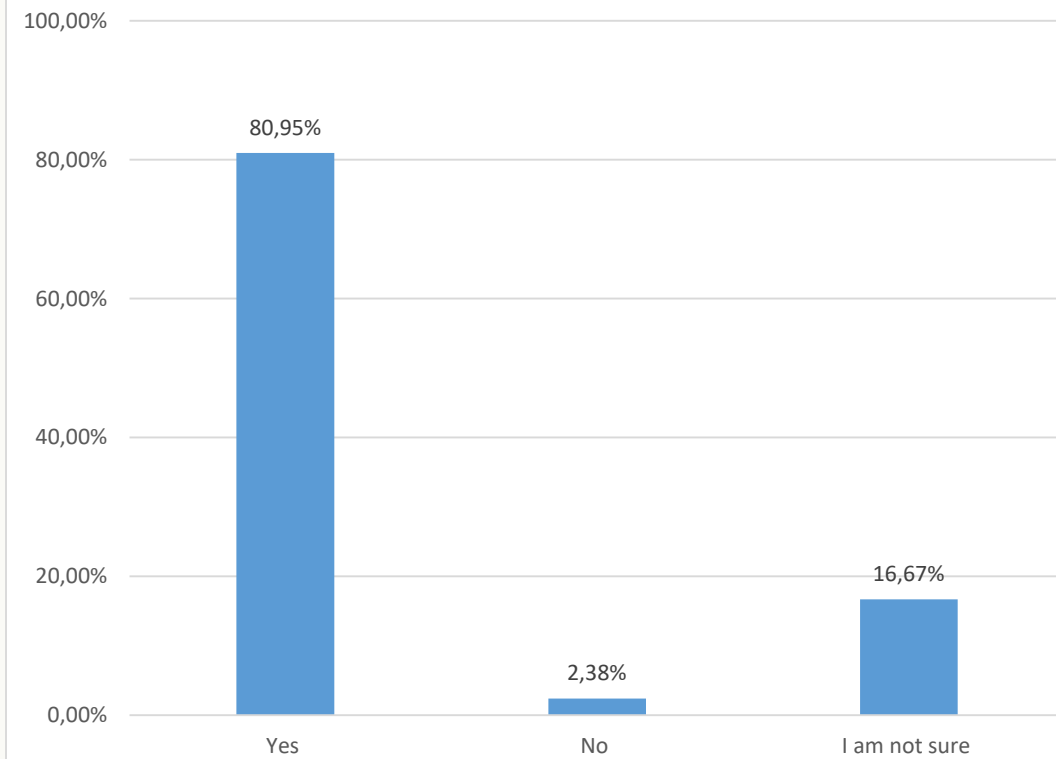- Online Survey in September/October 2022

Demographic data

- 42 students from Croatia, Bulgaria, Germany and Spain participated

- 70% female, 30% male

- 62% are between 18-25 years old, 38% over 26 years

- Field of study:
  - 50% Library and Information Science
  - 20% Information Technology
  - 15% Sociology and languages
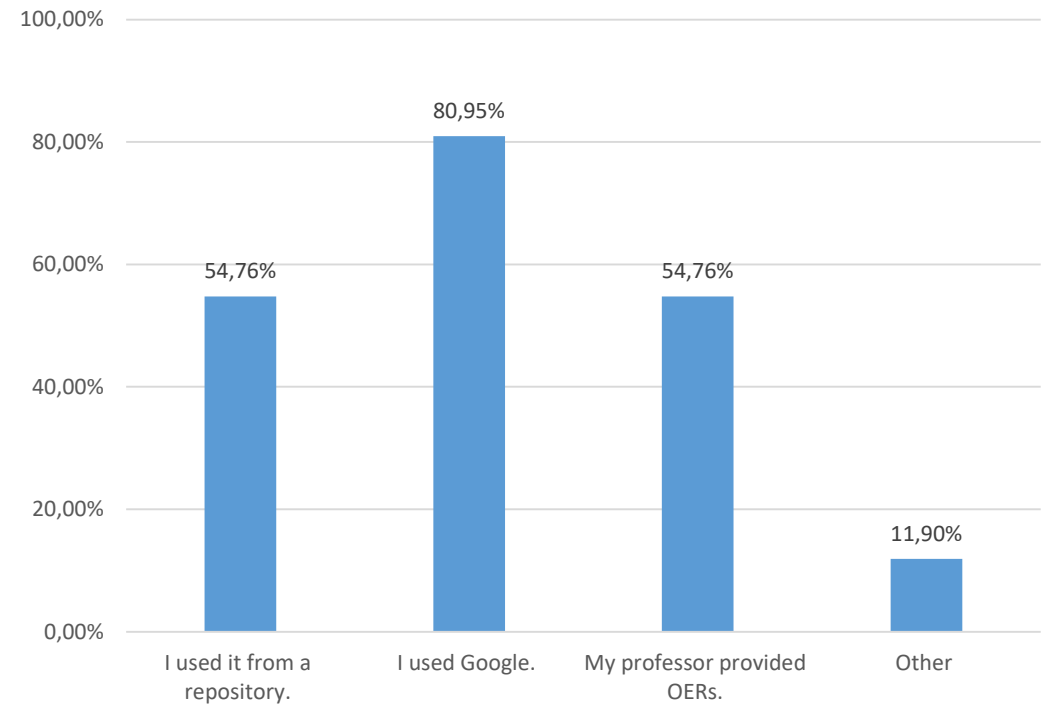 - 15% other subjects

Students experience with OER
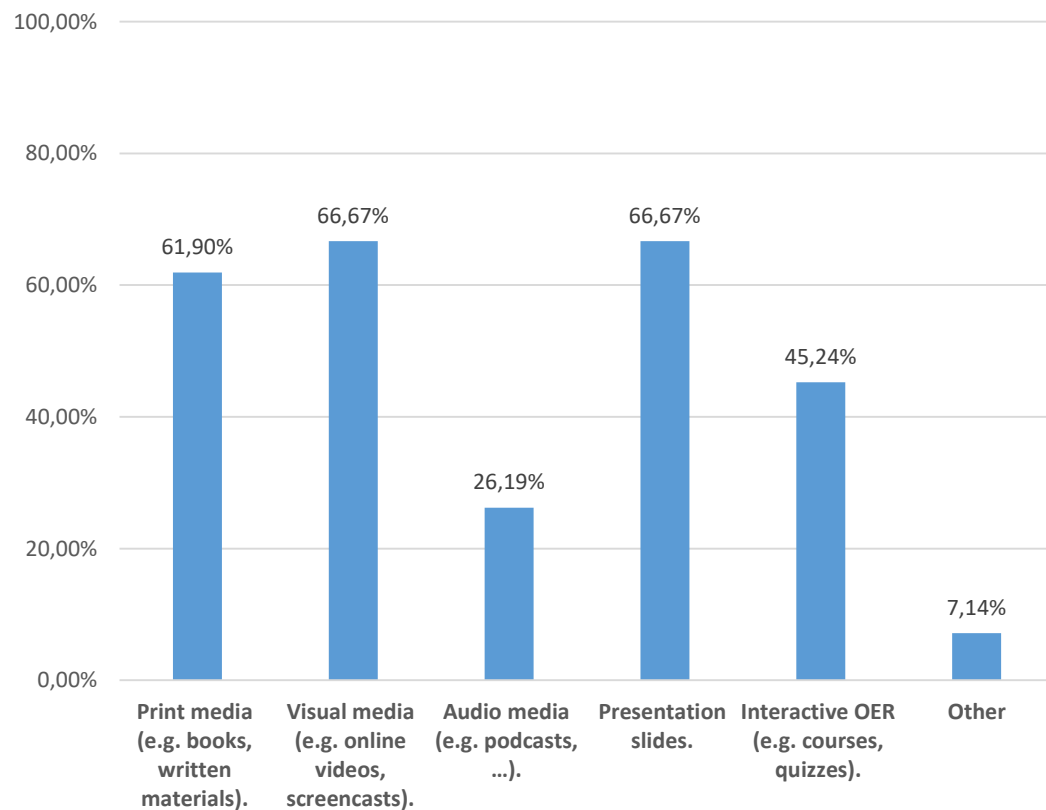
What kind of OER were you using?

- Print media (e.g. books, written materials). — 61,90%
- Visual media (e.g. online videos, screencasts). — 66,67%
- Audio media (e.g. podcasts, …). — 26,19%
- Presentation slides. — 66,67%
- Interactive OER (e.g. courses, quizzes). — 45,24%
- Other — 7,14%

How were OERs implemented in teaching?
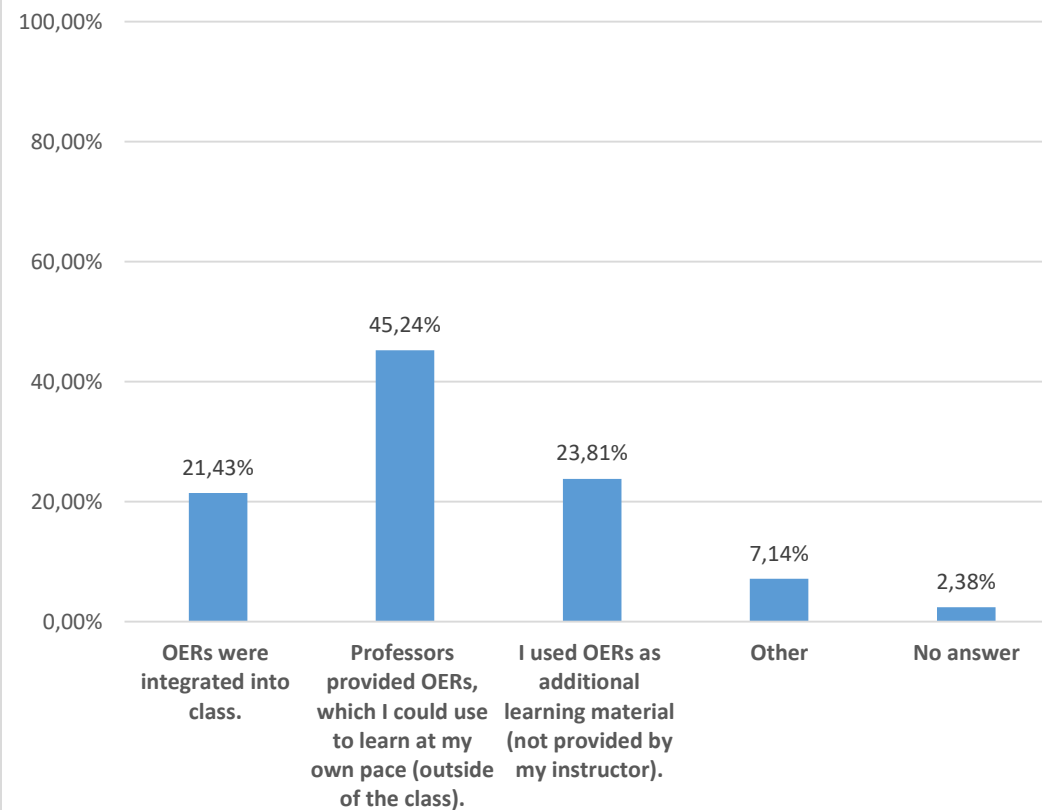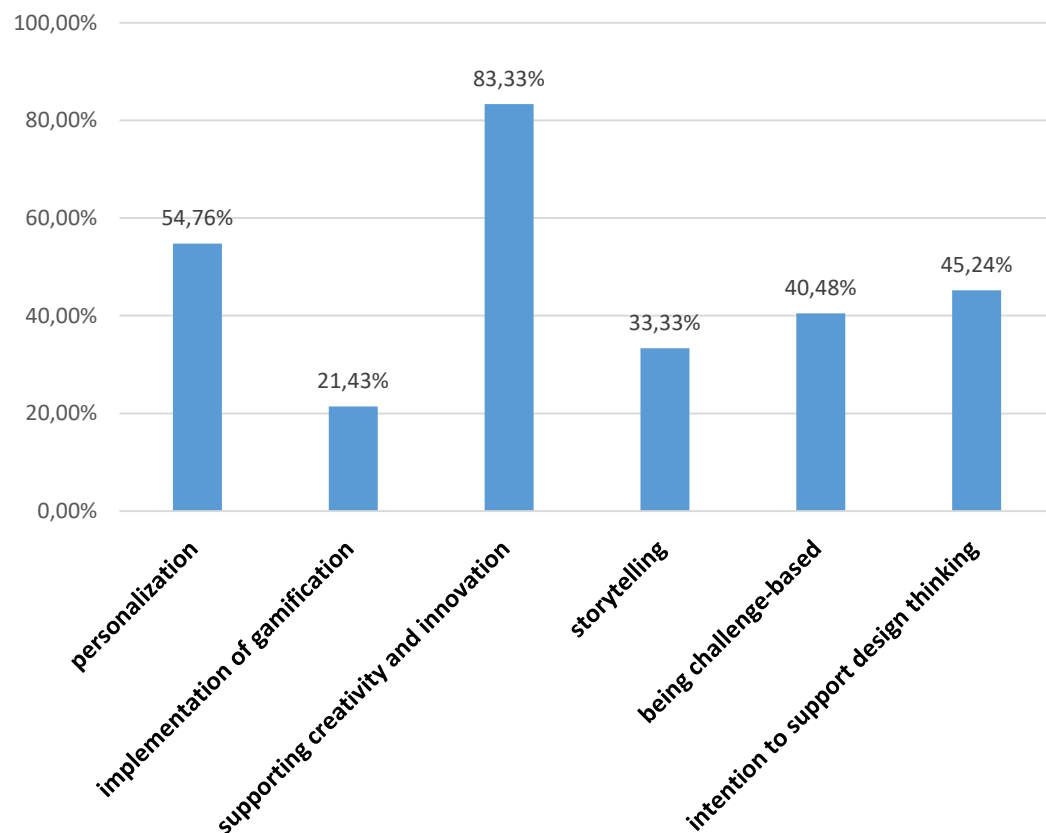
- OERs were integrated into class. — 21,43%
- Professors provided OERs, which I could use to learn at my own pace (outside of the class). — 45,24%
- I used OERs as additional learning material (not provided by my instructor). — 23,81%
- Other — 7,14%
- No answer — 2,38%
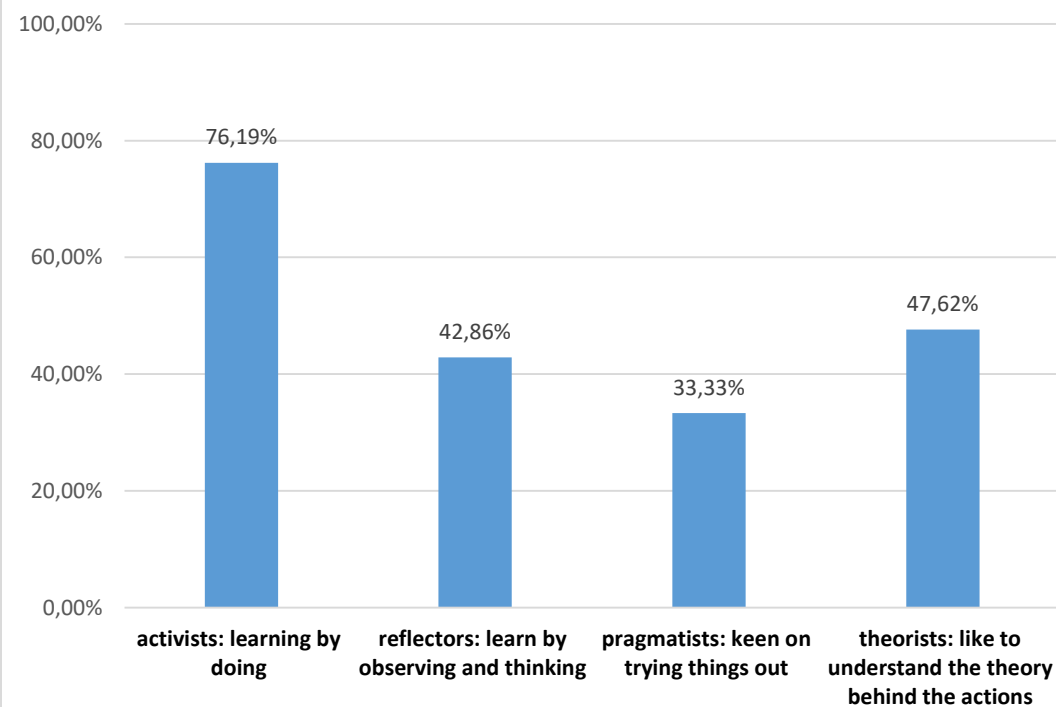
Conclusion

- Students have experience with OER

- Different usage scenarios: OER used in classes (provided by teachers) but also individual search and usage of OER (as additional learning material)

- OER should provide user-centered elements for students
  - Supporting creativity and innovation
  - Personalization

Reasons to use OER (ranked categories, n=42)

1. **Open Access**

   The ones I used were of good quality, easily accessible and free.

2. **Additional learning materials**

   To do research beyond of what I got in class.

3. **Quality of content**

   […] I also use OERs for term papers or projects.

4. **Interactivity**

   I use it as another source for learning and finding more information that's presented in a different way; more creative, interactive, easier and faster access in some cases.

Barriers to use OER (ranked categories, n=29)

1. Missing platform/repository

> *Time consuming and every profession uses a different platform. If it could be convinient enough to use one platform [...]*

2. Availability and Finding OER

> *Access is not always free* or *Sites requiring registration or payment.*

3. No barriers towards OER use

> *There aren't any. It is a great tool to use.*

4. Ease of use

> *[...] Not being compatible with operating systems or programmes and having to download something to use it.*

5. Outdated materials

> *When there are no more current learning materials.*

Guidance to faculty and staff (ranked categories, n= 25)

1. **Facilitate and promote OER among classes**

There should be more OER included, since my generation [...] appreciate different access and tools for learning, especially in the online world. The option to make it more interesting and the need to personalize so one could study and learn regarding ones personal needs [...]

They should educare students or at least give a Information that OER exists

2. **Provide accessibility and a good UX**

make it available for all devices or *an intuitive repository with a good UX, so that students can use it*

3. **Teachers should publish more OER**

Teachers should not be embarrassed to publish and share their material [...]

Future of OER for teaching and learning (ranked, n=28)

1. **Improvement of technology and teaching**

> [...] *the research is helping to develop and spread information of OER, which will make them richer and more participative, both from professionals, students, researchers and teachers*

2. **OER will promote networking and knowledge sharing**

> *I see in the future a network in which everyone can help each other and the knowledge of the users is promoted.*

3. **OER is not suitable for all use cases**

> [...] *unfortunately, until they get recognized as a valuable learning, teaching and research resource, their future is questionable*
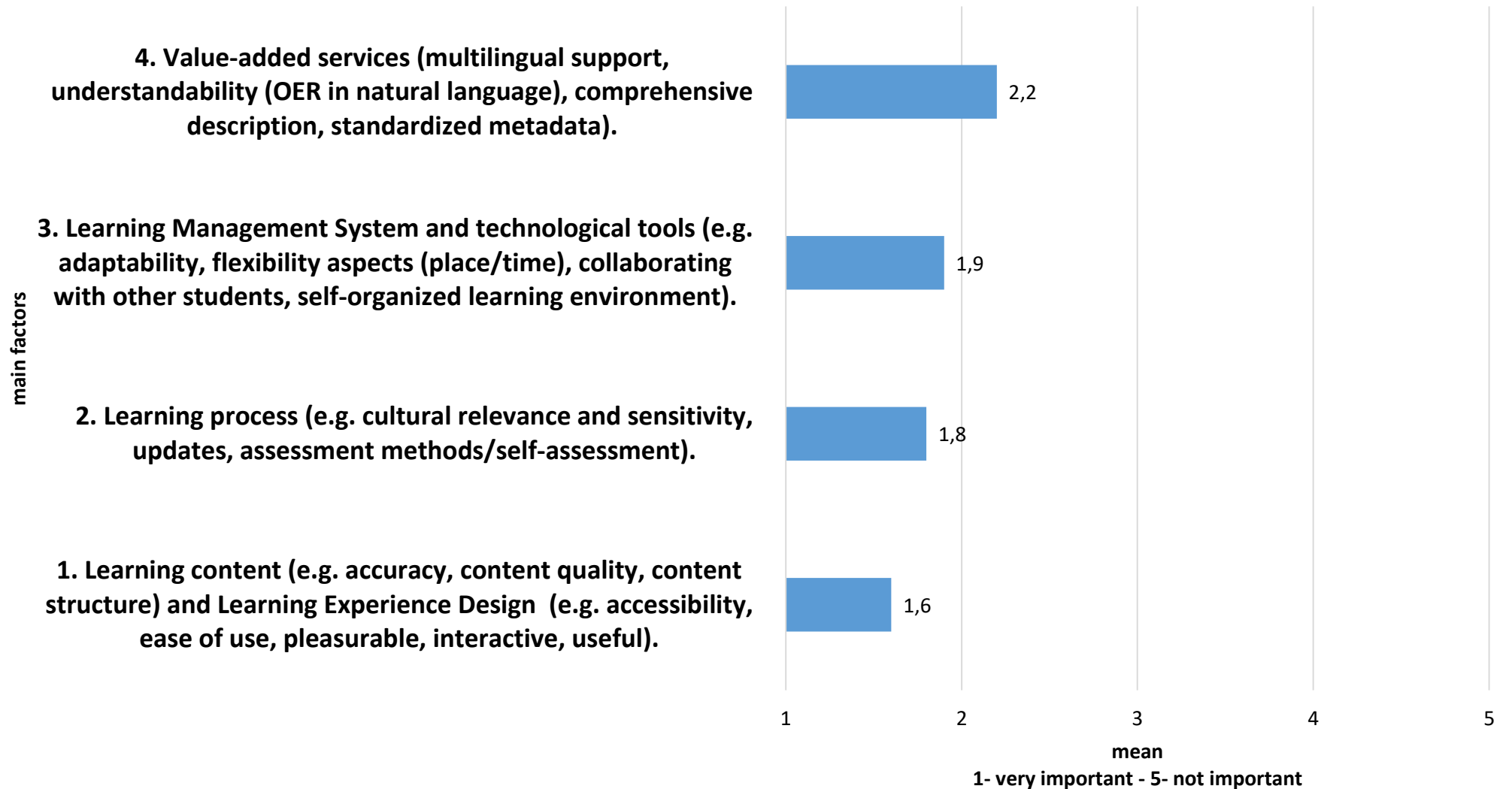
4. **OER can prevent inequalities**

> [...] *It will add more points of view, more opinions, more cultures and more knowledge, and it will help to give access to the people who cannot allow to pay the fees to use regular ER*
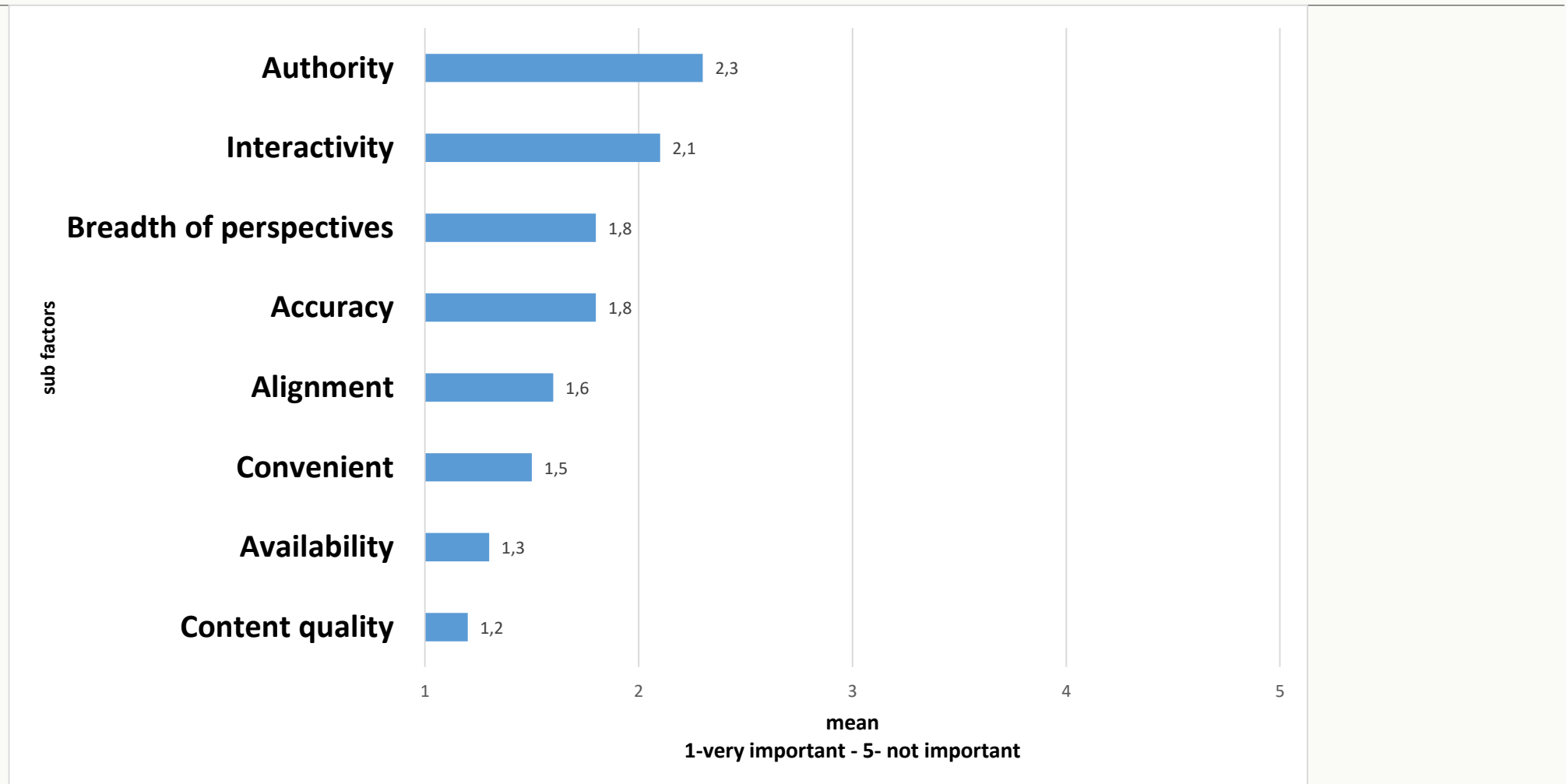
Ranking of success factors

Main categories

Ranking of four main success factors

main factors

4. Value-added services (multilingual support, understandability (OER in natural language), comprehensive description, standardized metadata). — 2,2

3. Learning Management System and technological tools (e.g. adaptability, flexibility aspects (place/time), collaborating with other students, self-organized learning environment). — 1,9

2. Learning process (e.g. cultural relevance and sensitivity, updates, assessment methods/self-assessment). — 1,8

1. Learning content (e.g. accuracy, content quality, content structure) and Learning Experience Design (e.g. accessibility, ease of use, pleasurable, interactive, useful). — 1,6
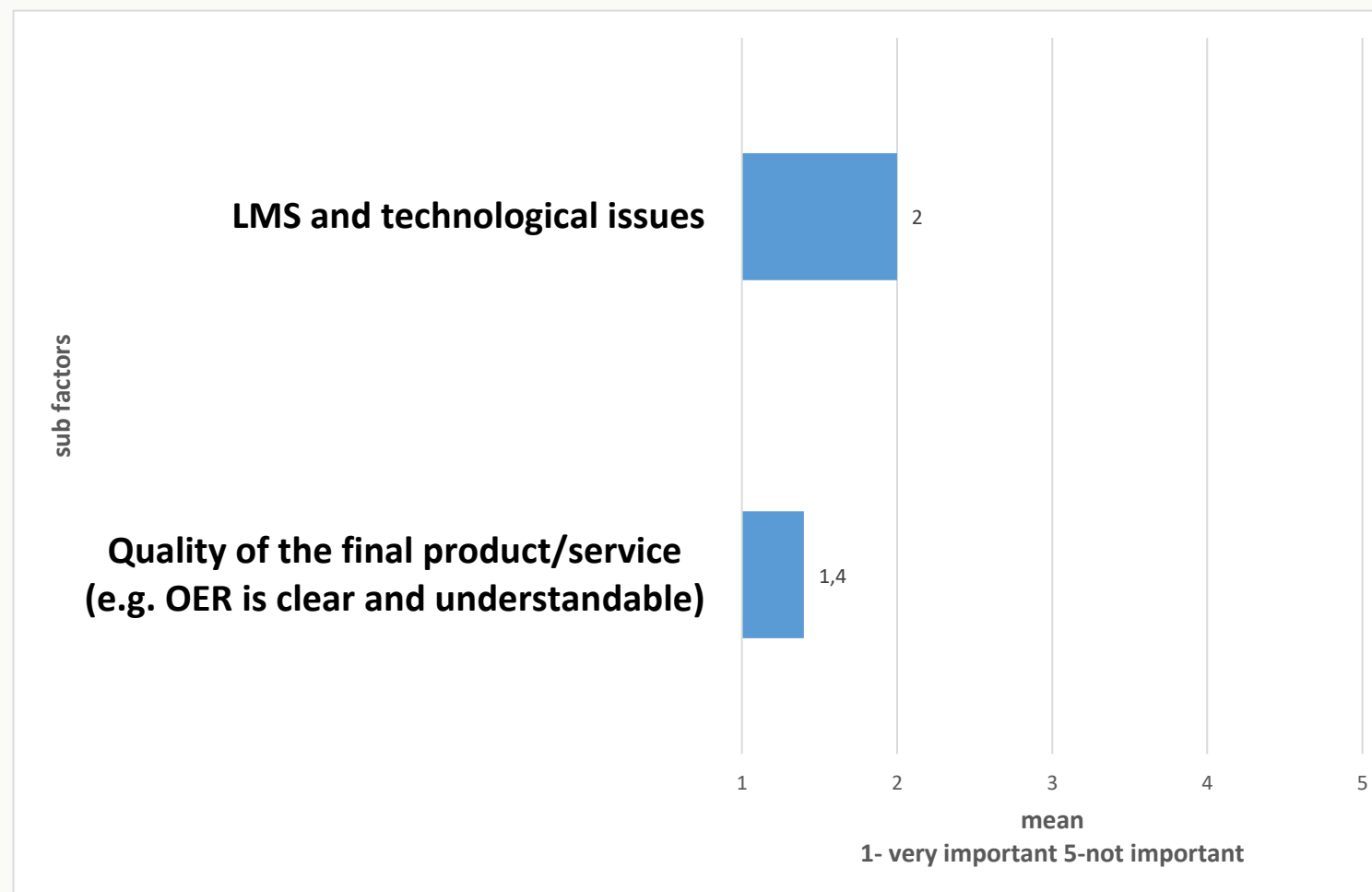
mean
1- very important - 5- not important
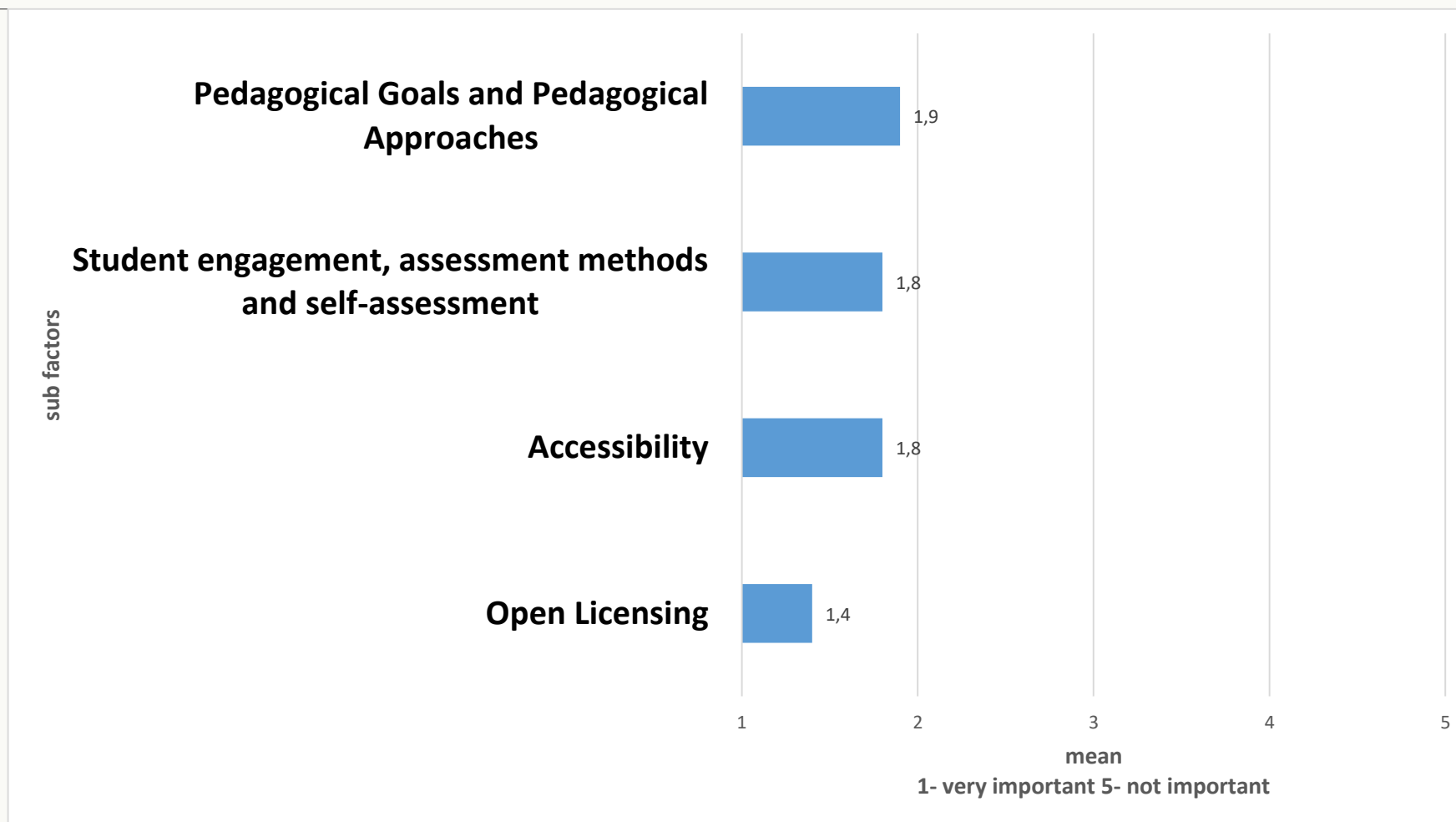
Ranking of sub factors per success factor
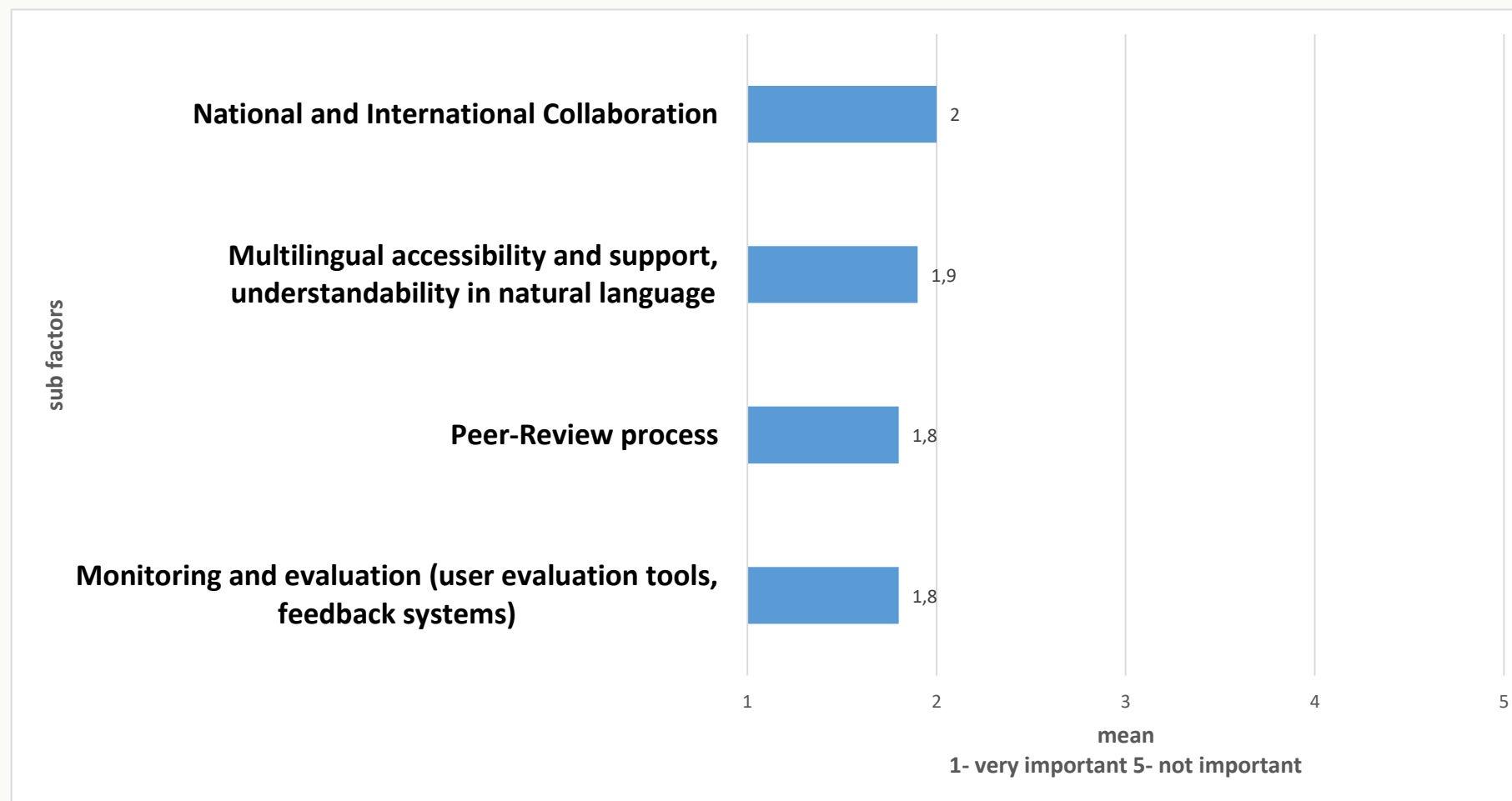
Learning Content and Learning Experience Design

Learning Management System (LMS) and Technological Tools

Learning Process and Pedagogy

Value-added services

Conclusion

- Results indicate student´s motivation on using OER
- Open Access, trustful (quality) content, availability

- Ranking results are not very clear
- Students favor more usage of OER in teaching

Document Analysis

Aims and Methodology

- Collect case studies on how the sucess factors work in practice

- Adopted version of DECriS Methodological Framework for evaluation of OERs

- First draft provided to all partners for commenting, after agreeing on final version start of data collection

- Data collection of examples at all project partner institutions in September and October 2022

- 14 completed forms returned

- Qualitative and quantitative analysis of the documents

Overview of reported OER

- **Is this OER used as part of a course at your institution?**
  - Yes: 12/14 → ~ 86%
  - n/a: 2/14
- **Teacher involvement:**
  - Yes: 9/14 → ~ 64%
  - n/a: 5/14 → ~ 36% (self-paced online-course)
- **Language:**
  - Monolingual: 7/14 → 50%
  - Multilingual: 7/14 → 50%
- **Level:**
  - BA: 7/14 → 50%
  - MA: 2/14 → ~ 14%
  - n/a (EINFOSE/DECris Summer Schools): 5/14 → ~ 36%

Overview of reported OER – Content and Interactivity

- **Content:**
  - Videos: 8/14 → ~57%
  - Book: 2/14 → ~14%
  - Mix of several content types: 7/14 → 50%
- **Activity:**
  - OER includes interactive elements: 11/14 → ~79%
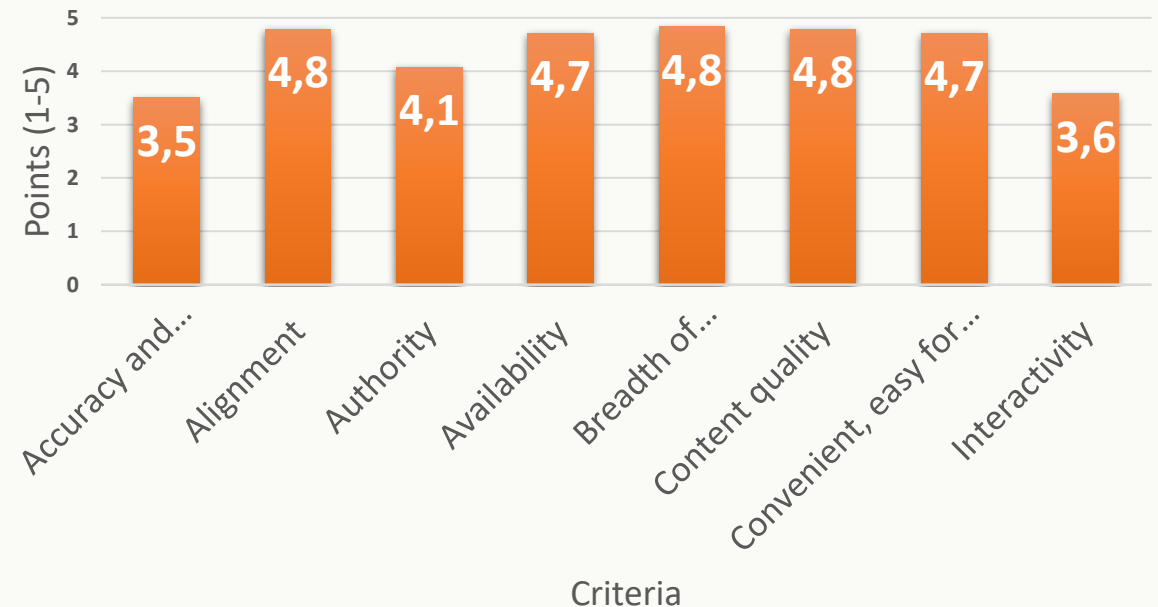 - Gamification: 7/14 → 50%

Rating results: Learning content and learning experience design (means)

(Scheme: 1=lowest, 5=highest, >= 3 is good)

- **Accuracy and Comprehensive OER Description with Standardized Metadata: 3,5 → lowest**
- Alignment: 4,8
- Authority: 4,1
- Availability: 4,7
- Breadth of perspectives: 4,8
- Content quality: 4,8
- Convenient, easy for use and cost saving: 4,7
- Interactivity: 3,6

Learning Content and Learning Experience Design

Points (1-5)

| | 3,5 | 4,8 | 4,1 | 4,7 | 4,8 | 4,8 | 4,7 | 3,6 |

Accuracy and… | Alignment | Authority | Availability | Breadth of… | Content quality | Convenient, easy for… | Interactivity

Criteria

Rating results: Learning content and learning experience design *(Arithmetic means)*

- **Lowest given score:**

- Accuracy and Comprehensive OER Description with Standardized Metadata: 1 point

  "Unsatisfactory document metadata description. Data: Authors, Title, created at: 07.02.2022"

  „For the reasons already mentioned, although the content of the video is explained at the beginning, no metadata is used to describe it as OER. In the properties of the file," as well as in the video, a title and the name of the author do not even appear."

Rating results: Learning content and learning experience design *(Arithmetic means)*

- **Lowest given score:**

- Interactivity**:** 1 point

  „It's not interactive and the objectives don't ask for it. The resource does not provide opportunities for students to test their knowledge of the material, the use of the content is subsequently shown in the resulting work that the student will do."

Rating results: Learning content and learning experience design *(Arithmetic means)*

- **Example for full score:**

- Breath of perspectives: 5 points

  „This course reflects multiple perspectives and points of view on course topics as it is created by five authors who has different expertise within the field of research methodology in information science."

Rating Results: Learning Management System (LMS) and Technological Tools

- LMS and Technological Issues: 4,6

- Quality of the Final Product/Service: 4,6

Rating Results: Learning Management System (LMS) and Technological Tools

- **Lowest given score:**
- LMS and Technological Issues**:** 2 points

  „The Audio-PPTs are available in Microsoft Powerpoint, Microsoft Powerpoint XML and pdf formats and they can be used in different devices. However, they have been created with a proprietary software and not open source, so users need to have the proper software to access to the material. As for the LMS, materials are available in the UB LMS Platform (Moodle) and the institutional repository but both digital platforms are not directly connected."

Rating Results: Learning Management System (LMS) and Technological Tools

- **Example for full score:**

- LMS and Technological issues**:** 5 points

    „The course is available within the LMS (Moodle), learning content works within the existing system. It can be accessed anywhere, anytime, using popular devices that participants can use (tested on laptop and mobile), only requiring a reliable internet connection."

Rating results: Learning Process and Pedagogy
(Arithmetic means)

- **Accessibility. Inclusiveness and Equality. Cultural relevance.: 3,9 → lowest mean rating**

- Open Licensing: 4,8

- Pedagogical Goals and Pedagogical Approaches: 5,0

- Student engagement, assessment methods and self-assessment: 4,0

Rating results: Learning Process and Pedagogy

- **Lowest given score:**
- Student engagement, assessment methods and self-assessment**: 2 points

  "As we have previously commented, the Audio-PPTs don't include self-assessment (and this is some improvement that can be added). However, since materials complement the learning process in a face-to-face classroom, activities are performed directly in the classroom, in form of practical exercises. There are some self-assessment online questionaries also available in the virtual classroom, but they are not part of the Audio-PPTs."

Rating results: Learning Process and Pedagogy

- **Example for full score:**

- Open licensing**:** 5 points

  "The course is available under open license with clearly defined terms of use: Attribution-NonCommercial-ShareAlike 4.0 International (CC BY-NC-SA 4.0)."

Rating results: Value-added services

- Linguistic accessibility. Understandability.: 4,4
- **Monitoring and evaluation (tools/mechanisms): 4,1 → lowest mean rating**
- National and International Collaboration: 4,9
- Peer-review process: 4,8

Rating results: Value-added services

- **Lowest given Score:**

- Linguistic accessibility. Understandability: 2 points
  „The video lecture is intended for Bulgarian students."
  „The student book is intended for Bulgarian students."

- Monitoring and evaluation (tools/mechanisms): 2 points
  "although there was a good experience of the use of the Audio-PPTs during the pandemic lockdown, they have not been updated since then. It is possible that they would need to be tested and improved in the next years of teaching."

Rating results: Value-added services

- **Example for full score:**

- Linguistic accessibility. Understandability: 5 points
  "The course is available in English, Spanish, Catalan and Swedish. The language of the content is direct, clear and reduced of linguistic complexity. Key terms are consistent within the course content."

Conclusions

- Reported examples show broad range of OER use at DECriS partner institutions – both integrated in courses as well as self-paced course offers
- What stands out is the high share of multilingual OER (50%)
- In general, the reported OER received a high rating on the evaluation scheme

- Collected data shows that the developed DECriS Methodological Framework for evaluation of OERs works for its intended purpose to evaluate OER
- The individual results demonstrate case studies on how the sucsess factors work in practice

Delphi Study – The experts' perspective

Delphi Study

- Goals:
  - Evaluation of OER Framework
  - Identification of unclear and missing factors
  - Comparison of students' and experts' ranking results
  - Identification of best practices and use cases: usage/implementation/consideration of success factors at their HEI
- Three phases (involving four international experts in creating OER):
  1. Online survey on success factors
  2. Online discussion on success factors and their use in practice
  3. Online survey on revised version of success factors

Main findings from the Delphi Study (1/2)

- In general very positive feedback – Experts found evaluation framework to be very comprehensive, even opening some new perspectives for them

- Even among exerts disagreement what is OER -> OER definition needed at the beginning of the evaluation form

- Short explanations for each factor would be beneficial to make the evaluation framework better understandable

- Disagreement if there should be a rating of the factors or a weighting of their importance

Main findings from the Delphi Study (2/2)

- Probably different versions of evaluation forms needed?
  - Different OER typologies
    - Example: a well-designed infographic intended to be printed out might be also a very good OER for its intended purpose, but does not fulfil several criteria like interactivity
  - Content creators and users
    - Not all success factors are relevant for students – it might make sense to provide a separate evaluation form to cover the student perspective
  - OER providers/repositories
    - Some factors rate criteria that are not always the content creator's choice but also influenced by the repository the OER is published (e.g. metadata, license)

Thank you for your attendance!

Questions and Discussion

Further information about DECriS project:

https://decris.ffos.hr/

Learning Content

1. Accuracy and comprehensive OER description with standardized metadata
2. Alignment
3. Authority
4. Availability
5. Breadth of Perspectives
6. Content quality
7. Convenient, ease of use and cost-saving
8. Interactivity

Learning Content

- **Accuracy and comprehensive OER description with standardized metadata**
  - the information in the OER is accurate; appropriate coverage of material in a clear, logical manner; reflects accurate and recent information in terms of the subject matter
- **Alignment**
  - OER aligns to the catalog's course description and student learning outcomes
  - similar terms include *appropriateness, educational value, learning effectiveness*
- **Authority**
  - Data about the author, content, and organization should be included

Learning Content

- **Availability**
  - includes concepts such as *transparency* and *ease-of-access*
  - Users should find OER for their needs without a search.
  - Platforms and curation can play a major role
- **Breadth of Perspectives**
  - OER reflects multiple perspectives and points of view on course topics
  - OER includes multiple modalities (e.g. graphics, tables, and information other than text) to support student learning

- **Content quality**
  - Teachers need some assurance about the perceived quality of a resource in order to help them select the best content possible for their teaching
- **Convenient, ease to use and cost-saving**
  - effective repositories will make the process of searching, (re-)using, or adapting OER as simple and convenient as possible
  - providing effective learning experiences with lower costs
- **Interactivity**
  - allows an interaction, as a dialogue, between the device and the user

Learning Management System (LMS) and Technological Tools

1. LMS and Technological issues
2. Quality of the Final product/Service

Learning Management System (LMS) and Technological Tools

- **LMS and Technological issues**
  - technical factors might affect the openness of OER
  - ensure that the learning content will work within the existing system
- **Quality of the Final product/Service**
  - The content in the OER is clear and understandable
  - The interface and design are easy to navigate
  - The sound quality is high for audio resources
  - The video and audio (if included) quality are high
  - The OER contains no spelling errors or typos

Learning Process and Pedagogy

1. Accessibility, inclusiveness and equality, cultural relevance
2. Open Licensing
3. Pedagogical goals and pedagogical approaches
4. Student engagement, assessment methods and self-assessment

Learning Process and Pedagogy

- **Accessibility, inclusiveness and equality, cultural relevance**
  - (OERs) should be truly open to all, they must be accessible to learners with disabilities
  - OER must be designed from an open and inclusive perspective
  - E.g. authors should clarify if they followed any usability guidelines to create the resources
- **Open Licensing**
  - principle of openness and accessibility of education, availability of an open license for the use of educational content

Learning Process and Pedagogy

- **Pedagogical goals and pedagogical approaches**
  - OER promote active learning, class participation, and/or collaboration and to includes a mix of instructional approaches
  - By finding, adapting and remixing OER, educators can create materials that are personalized to their students' learning needs
  - foster greater equity for accessing content for those with limited background knowledge
- **Student engagement, assessment methods and self-assessment**
  - OER includes effective and engaging student assessments of the course learning outcomes and objectives
  - provide opportunities for students to test their learning; self-reflection and self-assessment

Value-added Services

1. Linguistic accessibility, understandability
2. Monitoring and evaluation (tools/mechanisms)
3. National and International Collaboration
4. Peer-review process

Value-Added Services

- **Linguistic accessibility, understandability**
    - design the interface of the repository in a multilingual way to widen the scope of users by allowing them to perform a search of content in different languages
- **Monitoring and evaluation (tools/mechanisms)**
    - user evaluation tools for the resources to be evaluated by users aiming to rate a resource
    - provide feedback on the value and usefulness of the resources

Value-Added Services

- **National and International Collaboration**
  - Permission of OER to be collaboratively adapted and re-mixed by a global community, resulting in new OER that are more culturally relevant and inclusive for different communities of learners

- **Peer-review process**
  - there is a lack of possibilities to get OER reviewed
  - Peer review as a policy to revise and analyze OER to ensure their quality might be a solution

Learning Content and Learning Experience Design

1. Accuracy and comprehensive OER description with standardized metadata
2. Alignment
3. Authority
4. Availability
5. Breadth of Perspectives
6. Content quality
7. Convenient, ease of use and cost-saving
8. Interactivity

1. Standardized metadata
2. Alignment
3. Authority
4. Breadth of perspectives
5. Accuracy and content presentation
6. Convenient, easy for use
7. Interactivity (optional)

Learning Management System (LMS) and Technological Tools

1. **LMS and Technological issues**
2. **Quality of the Final product/Service**

- **Change category name: Technological Issues**
1. Format of the OER
2. Quality of the final product
   - The content in the OER is clear and understandable
   - The interface and design are easy to navigate
   - The sound quality is high for audio resources
   - The video and audio (if included) quality are high
   - The OER contains no spelling errors or typos
3. Production value

Learning Process and Pedagogy

1. Accessibility, inclusiveness, equality, cultural relevance
2. Open Licensing
3. Pedagogical goals and pedagogical approaches
4. Student engagement, assessment methods and self-assessment

1. Accessibility, inclusiveness, equality, cultural relevance
2. Level of Open License
3. Pedagogical goals and pedagogical approaches
4. Information on how to cite the OER
5. Student engagement, assessment methods and self-assessment (optional)

Value-added Services

1. Linguistic accessibility, understandability
2. Monitoring and evaluation (tools/mechanisms)
3. National and International Collaboration
4. Peer-review process

1. Linguistic accessibility, understandability
2. Monitoring and evaluation (tools/mechanisms)
3. Peer-review process
4. Conformity with EU-GDPR