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Project no. 619347

EAGLE- EnhAnced Government LEarning

Objective ICT-2013.8.2 Technology-enhanced learning;

c) Holistic learning solutions for managing, reaching and engaging learners in the public administrations

Small-scale Collaborative Project (STREP)
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Deliverable 7.1

Cultural Model Design and Contextualization Processes

WP 7 - LOCALIZATION
Lead Participant: HRW

Approval Panel	Name / Partner short name	Department / Function	Date
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Glossary

BA	Basic assumptions
CA	Cultural Artefacts
CAP	Cultural Adaptation Process
CVR	Content Validity Ratio
DX.X.	Deliverable, work-package number
EC	Espoused theories and convictions
MCM	Multiple Culture Model (Henderson 2007)
OER	Open Educational Resources
OS	Open Source
WP	Work-Package

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Management Summary

The deliverable documents relevant work accomplished to produce a cultural contextualization process for EAGLE and related guidelines for users how to adapt OER to their socio-cultural contexts.

Steps that have been taken cover **literature reviews**, discussions and **collaboration across work-packages** in EAGLE and not at last, **validation interviews** of the cultural model by **eleven experts** in the four EAGLE countries. Also a **cultural model questionnaire** is constructed and runs at the moment; it further validates the cultural model. Although further verification of the guidelines is needed in the future, experts have already supported the high relevance and validity of the cultural factors. Experts were **able to draw inferences for** how to adjust management to improve learning experiences at the workplace. In this regard, the value of the cultural model for elaborating essential factors (that shape learning activities) can be supported.

Findings to highlight from this report: **cultural factors** in private and public sectors differ; the EAGLE model takes these differences into account and is attuned to public sector needs. Relevance of selected cultural factors is supported by **matching results of the requirements analysis in EAGLE (D2.2.A.)** with results from the literature reviews and expert interviews. Experts emphasize the relevance of cultural factors; culture is not a 'popular topic' but shapes success and failure of implementing new learning techniques and technology. E-Learning and use of OER in public administration is not common practice at the moment; however, experts underline that the project EAGLE is **innovative and path-breaking**; from their perspective, results will be **invaluable in the near future**. Coming to contextualization steps; experts highlight the **value of re-using** work documents for learning means. The contextualization model orients on experience-based guidelines from previous projects like OpenScout. Yet, steps and implications are attuned to the needs including cultural factors of public sector contexts.

Outputs that the deliverable provides or references: Firstly, a **cultural model** is provided which defines which factors in the socio-cultural context of public administrations shape learning activities and the exchange of open knowledge resources. Correspondingly, a **summary of the literature review** and **expert validation** is provided. To validate the model in addition to expert interviews, a **culture questionnaire** is developed and disseminated. Results will be available in January 2016. Secondly, a culture **contextualization process** is outlined. Correspondingly, a **literature analysis** and **synthesis of experiences** is provided in the deliverable. Thirdly, **guidelines** for users how to navigate through the culture contextualization process are developed. Fourthly, an **online OER** is developed which guides users through culture contextualization online. It is made available on the EAGLE platform and integrated (connected) with other open knowledge resources for future EAGLE users.

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1 Introduction

Executive summary: The deliverable shows results from task 7.1, 7.2. and includes work of WP4 and WP7. The task to analyse tools is multifaceted wherefore the focus and approach are clearly defined below.

1.1. Scope of the deliverable

The following report combines findings of the cultural analysis (tasks 7.1) and development of contextualization processes (task 7.2). Culture is a main influencing factor in the (re-)use of OER. Contextualization covers several activities which aim at facilitating the analysis of these factors and developing strategies for the (re)use, exchange and adaptation of OER for personal means. Hence, the following report will clarify, how the (re-)use of OER can proceed and how to avoid cultural barriers in a given public sector context.

This deliverable is a starting point to guide stakeholders in contextualization processes. Findings and recommendations will be updated and revised in the deliverable D7.3. Findings about cultural factors in the exchange of OER and e-Learning platforms (open e-learning activities) moreover inform the evaluation of contextualization tools in other work-packages and tasks (task 7.3., and D6.4.). Not at last, the approach to culture in EAGLE will inform the developed change model (work-package 3). Considerations in both work-packages are integrated to develop a coherent approach in the project EAGLE.

Given the scope of the contents addressed, the following section will document the structure of the deliverable and clarify how the tasks are addressed.

1.2. Structure of the deliverable

The deliverable will provide background literature on culture contextualization in a first step. In a second step, the cultural analysis (analysis of cultural factors) in public administrations will be explained and results discussed. In a third step, contextualization processes will be assessed. Last but not least, recommendations and discussion of the outcomes will be provided. The tasks of the Description of Work are addressed by the following chapters:

Chapter 2: Introduce background of culture contextualization


Chapter 3: Elaborate how to answer the research question: which factors are relevant when adapting OER across borders? A model of organizational and cultural factors and expert workshops will contribute to identify cultural change needs for concrete resources.

Chapter 4: Creates steps for a cultural and contextualization analysis to validate the models.


Chapter 5: Results of validation steps and a refined cultural model are presented

Chapter 6: Contextualization processes are refined in view of the cultural model

Chapter 7: Culture contextualization guidelines define the activities, roles of stakeholders as well as potential tools and services used.

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In an integrated approach, activities to be accomplished in task T7.2. and T7.3. are thus addressed throughout the chapters.

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2 Cultural contextualization

Executive Summary: Cultural contextualization is described as a cyclical process of culture sensitive creation and adaptation of digital learning objects. Answers to the questions: ‘why to consider cultural aspects; which strategies have emerged for adapting learning objects and adaptive systems’ are presented. EAGLE will build upon existing strategies. The chapter provides background to judge whether and which aspects to take over.

2.1. Review: culture contextualization


Culture contextualization can be described as a cyclical process of (a) creating and (b) adapting culture sensitive digital learning objects, i.e. making them suitable for local uses and means (cf. Dunn & Marinetti 2002, p.2). Several models will be presented to clarify *what* is created / adapted, as well as *best practices to succeed* in culture contextualization. While the models differ in foci and approach, a shared goal is to mitigate barriers associated to the (re)use and exchange of open knowledge resources. For example, that they are not meaningful for learners across different contexts given linguistic diversity or ‘not invented here’ syndromes (Richter & McPherson 2012; Pirkkalainen & Pawlowski 2014).

What needs to be adapted to (re)contextualize OER and to avoid barriers? To answer this question, one can distinguish between contextualization of *learning resources* and *learning systems*. Focussing on learning resources, Anand (2005) suggests focusing on linguistic, substantive and cultural aspects of the content. Linguistics refers to change of textual descriptions on the screen and graphics or window titles (Anand 2005, p.2). Substantive contents are rules and regulations, cases, abbreviations; for local audience mentioned in the resource (Anand 2005, p.3). Cultural contents refer to names, titles and forms of addressing people, icons, symbols, graphic styles among others (Anand 2005, p.3).

Adapting terms, icons or examples, however, is just as important as the concept behind contextualization. Henderson (2007) criticizes that without a conceptual model (that answers what and how to adapt), resources are not becoming sensitive to multiple cultures but prone to tokenism and stereotyping. Contextualization according to Henderson should focus on a model which includes standpoint epistemologies, gender, minority, workplace culture and eclectic pedagogical paradigms among others (Henderson 2007, p.136). As a result, not the content of a resource as such but the layout, its format and learning structure may be subject to contextualization.

While Henderson’s model is comprehensive, a difficulty is to operationalize the theoretical constructs in practice. One approach is to ‘attach’ cultural metadata to learning resources. The metadata (data about the characteristics of the learning resource) inform about cultural characteristics, such as language and origin of the author. Metadata thus facilitate to define adaptation needs. According to Buzatto et al. (2009), metadata are essential for contextualization learning resources.

Shifting from contextualization of learning resources to **systems**, Opperman et al. (1997) suggest modifying instances of the *interface* (such as access to features, interactive dynamics, and screen layout). Furthermore, *functionalities*, including system features, trigger

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options and tools may be adapted (Oppermann et al. 1997; also in Buzatto et al. 2009). Beyond applications, Specht (2008) elaborates on contextualized infrastructure, for example, in mobile learning environments. Similar to context aware systems, he defines architecture modules for supporting situated needs. Another familiar approach of system adaptivity for almost every web-user is the tailoring of search mechanisms. Here a system concludes on base of user data which are the most likely useful resources for the user (Specht 2008).

So far, this description has touched upon two ways of contextualization; either by direct user manipulation of interfaces (adaptable systems) or by automated response to user characteristics (system adaptivity, Oppermann et al. 1997). **But what is state of the art of these approaches?** Is the development and deployment of automatic response, content structure, metadata, and search processes in platforms important in equal terms?

Several strategies for learning resource and system contextualization exist. Defining what is best for culture contextualization depends on the specific user needs as well as on the time and efforts which can be invested in the process. Not in all cases contextualization is useful. For example, if the context of users is sufficiently similar, the effort to adapt the content does not advance the resource. Instead the process raises the cognitive load of learners without gains (Katz & Te'eni 2007). To answer the question, at least two points need to be considered.

Firstly, it requires good knowledge about the contexts and user needs to contextualize learning resources and systems. For this reason, it is very difficult to develop fully automated systems (adaptivity systems, Richter & Pawlowski 2007; Oppermann et al. 1997). Not only for the public sector, (where research on open e-Learning is very limited) but also in more elaborated domains such as technology enhanced education: 'Who knows what is relevant to adapt' (Bucur et al. 2006, p.62) remains a salient question (similarly in Katz & Te'eni 2007).


Secondly, it is important to take pressure off developers and users. Both need time to explore the needs and requirements; they may also change over time. Users thus shall be given control over exiting personal preferences and needs (Oppermann et al. 1997; Lane 2010). As a result, Oppermann et al. (1997) conclude that automated adaptivity is not the main best choice for contextualization. Though adaptive interfaces and search functionalities are increasingly becoming standard applications, cultural bias in contextualization needs to be avoided (Henderson 2007). The rest of the chapter will therefore focus on strategies to develop adaptable systems and learning resources.

2.2. Models and strategies of culture contextualization processes

The following section will scope models and strategies for culture contextualization. This will provide the required knowledge to evaluate the culture contextualization model for EAGLE. It will illustrate the potential outcome of the analysis. A split will be made between strategies for adaptable and adaptive open educational resources / systems.

2.2.1. Adaptation strategies of OER and e-Learning courses

Anand (2005, p.4) offers a strategy to integrate localization and internationalization of learning resources. The core aim is making a knowledge resource functional by abstracting

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from the language. A main premise is to start thinking about contextualization from the beginning of resource creation, instead of having an “afterthought” (Anand 2005, p.4). Correspondingly, a requirements analysis of global and local needs is the first step in Anand’s process. Internationalized design, development, testing and quality control are followed by localization, related testing and quality control (p.4). Subject to adaptation is the format of the contents, screen and media design.

Anand’s (2005) approach emphasizes the recursive steps of contextualization. Yet, his model stays on a high level. To focus on learning resources more particularly, the strategies of Rensing et al. (2005) can be referred to. The authors classify strategies how to go about the learning resources and differ between the re-authoring of learning resources and the authoring by aggregation.

Authoring by aggregation means that a learning resource is made by mixing an existing resource with new or other existing resources. Reversely, permutation means that parts of an existing resource are deleted or substituted by new or other existing learning resources. *Re-authoring* in contrast, covers simple changes such as correction and updates of existing learning resources. Furthermore, it covers *re-purposing* activities. Re-purposing includes slicing into modules (modularization) and adapting contents (adaptation, Rensing et al. 2005, Ch.3.3.). An overview of the classification is provided in the figure below.

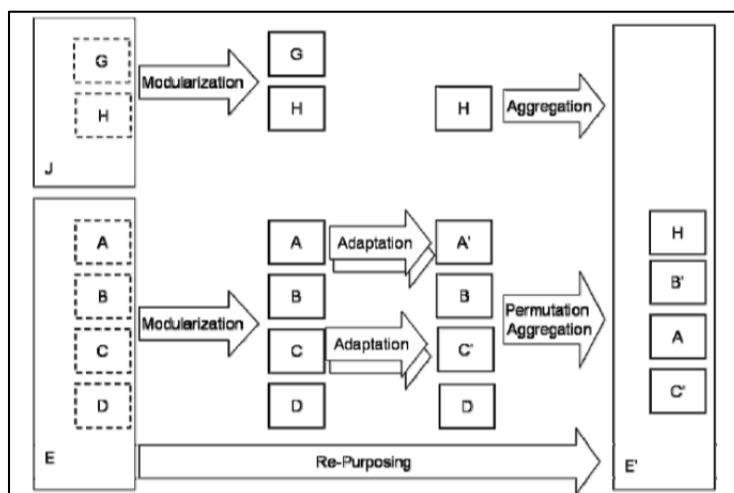


FIGURE 1: DIAGRAM OF ADAPTATION STRATEGIES (RENSING ET AL. 2005)

Compared to Anand (2005), Rensing et al. (2005) provide a clear terminology and strategies how to adapt learning resources. Beyond the focus on existing learning resources, however, Rensing et al. (2005) mainly focus on adaptation. This neglects a culture sensitive creation of learning resources in the first place (as encouraged by Anand 2005). Moreover, the role of culture and analysis of learner needs are left aside the diagram. To cover these aspects more clearly, the two following models will be presented.

The first model is the *enriched adaptation process* of Mikroyannidis et al. (2010). It serves as a generic adaptation strategy for digital learning resources in the platform OpenScout. It builds upon the adaptation process of Pawlowski & Richter (2010) which can be seen in the


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Figure 2 below. Adaptation begins with searching learning resources, validate the re-usability, re-use/or adapt it, validate the solution and finally to re-publish the resource for other users.

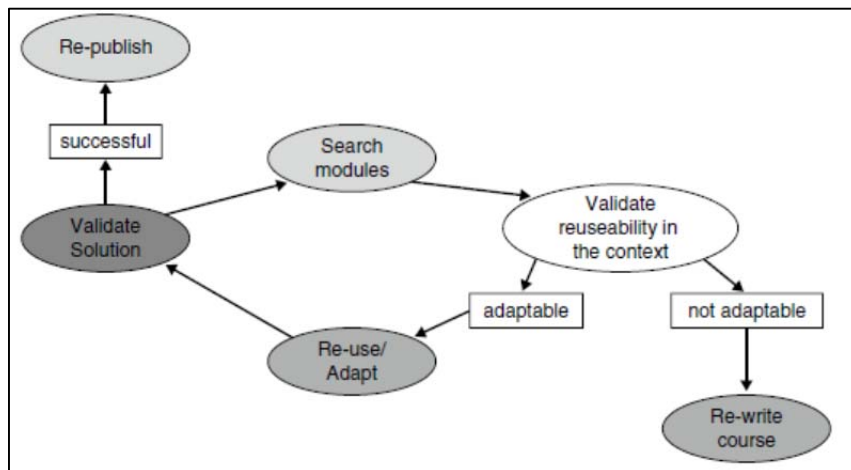


FIGURE 2: ADAPTATION CYCLE RICHTER & PAWLOWSKI (2012, P.6)

While this process highlights the cyclical nature of contextualization, the creation of culture sensitive resources is not included. Furthermore, the model is on a high level and leaves open to discuss how to search, validate re-usability and actual adaptation. For these reasons, Mikroyannidis et al. (2010) add a requirements analysis phase to the model and elaborate further granular steps to accomplish for contextualization.

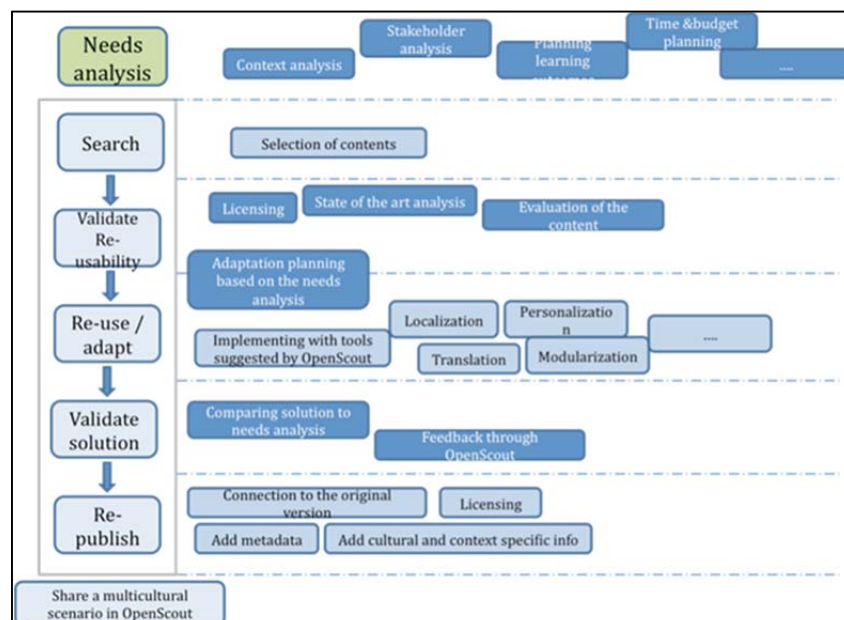



FIGURE 3: ENRICHED ADAPTATION PROCESS (MIKROYANNIDIS ET AL. 2010)

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The enriched adaptation model is more granular and clear concerning the process of contextualization. It specifies which aspects to include in the needs analysis, what aspects to consider in validating learning resources for re-use and finally, what steps to accomplish for re-publishing. This model is a valuable frame for guiding through the process of contextualization. Yet, the phase of initially creating culture sensitive resources is not included. Moreover, Mikroyannidis et al. (2010) do not clarify how cultural analysis and values are integrated in the process. A model which is more focussed in this respect will be presented in the following.

The **cultural adaptation process (CAP)** is an analytical grid for evaluating and creating instructional design for culture sensitive e-Learning courses and contents (Edmundson 2007a). It proceeds from an analysis of the context (such as media types used, type of contents and learning tasks) over a culture analysis to the definition of adaptation strategies (Edmundson 2007a).

	Level 1	Level 2	Level 3	Level 4
Step 1: Evaluate type of content (see examples.)	Simple information, core knowledge, news or updates, such as product knowledge, company procedures	Low-level, cognitive hard skills; simple knowledge and concepts, such as those used in application software; most computer-related skills	Some soft skills; complex knowledge, such as project management, presentation skills, marketing strategy	Mostly soft skills; attitudes and beliefs, such as negotiation skills, motivation, teamwork, conflict resolution
Step 2: Identify media	Lecture, handouts, simple demonstrations (no actual interaction among learners or between instructor and learners)	In this range, several media options are available, but HOW they are used is the important factor. For example, media can provide active or passive access to other learners or to the instructor. Visual Media—Satellite broadcasts, audio conferencing, recordings, television, etc. Text-Based Media—Threaded discussions, list servers, online chat, e-mail, etc.		Vide Conferencing, Web-based training, streaming media and Web conferencing (real time or simulated interactions among learners or between learners and instructor)
Step 3: Identify pedagogical paradigm (via instructional methods, etc.)	Instructivist-objectivist, with behavioral objectives and sharply-focused goals; low-context communication; mimetic	More closely related to instructivist-objectivist than constructivist-cognitive paradigm	More closely related to constructivist-cognitive than instructivist-objectivist paradigm	Constructivist-cognitive with cognitive objectives, unfocused goals; high-context communication; transformative
Upon review of targeted learners' cultural dimension (Hofstede, Trompenaars & Hampden-Turner, Hall, etc.), relate learners' cultural profiles to <i>critical and assistive</i> characteristics of the course that may support or hinder learners' use or acceptance of course:				
Step 3 (a): Identify <i>critical</i> cultural characteristics of course	Unsupported ←	Cooperative Learning		→ Integral
	Extrinsic ←	Origin of Motivation		→ Intrinsic
	Non-existent ←	Learner Control		→ Unrestricted
	Didactic ←	Teacher Role		→ Facilitative
	Errorless learning ←	Value of Errors		→ Learning from experience
Step 3 (b): Identify <i>assistive</i> cultural characteristics of course	Mathemagenic ←	User Activity		→ Generative
	Abstract ←	Experiential Value		→ Concrete
	Non-existent ←	Accommodation of Individual Differences		→ Multifaceted
Step 4: Integrate current research findings				
Step 5: Adaptation strategies Such strategies can consist of design changes to the e-learning course itself, or to the e-learning environment.				
Step 5 (a): Design strategies	Translation	+ Localization	+ Modularization	Origination
Step 5 (b): Environmental strategies				
Step 6: Action planning and testing				

FIGURE 4: SCHEMA CULTURE ADAPTATION PROCESS

Of interest is the concept of culture which is built upon a simplified model of the multiple culture model (Edmundson 2007b). The main premise of the *Multiple-Culture Model* is that design choices of a particular instructional approach (such as assessment techniques, learning tools and interaction among students and teachers) can amplify certain values and

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worldviews while marginalizing others. To design a culturally sensitive approach, instructional design thus has to balance different ‘cultural logics’ (Edmundson 2007b, p.94). The main factors to consider are fourteen **values** with regard to educational, epistemological and communicational convictions. They cover experiential values, role of the instructor and learner control as well as user activity among others (the full range is explained in the next chapter).

Overall, Henderson (2007a) cultural model presents **culture as a set of values**. Integrated in Edmundson’s approach¹, attention is given to the fact that certain kinds of resource and content formats are more or less culturally shaped. Not only are values to consider in the design and adaptation of learning resources, but also the artefacts embodying cultural shapes (cf. Richter 2014). Furthermore, consequences for contextualization strategies can be inferred: Based on the typology and cultural analysis, creation and adaptation strategies can be defined. They range from recommendations to translate the content (translation), over to adapt certain terminologies apart from the language (localization), to adapt selected modules of the course and contents (modularization) and finally to create a totally new resource (origination) (Edmundson 2007b, pp. 2257f.).


So far, several strategies for culture contextualization of adaptable systems have been presented. They complement each other in depth and foci and will help to build a state of the art contextualization model for EAGLE. For example, the enriched adaptation model (Mikroyannides et al. 2010) directs attention to the particular needs in a given context but neglects to address the role of culture and granular focus on changes of learning resource. The CAP model focuses on cultural influences but also remains on a high level. Tapanes (2011) emphasizes the need to extend CAP in a given the context since the empirical use is low so far (also Pawlowski & Richter 2010). Rensing et al. (2005) can complement the focus on overall processes by steps how to adapt a learning resource. Not to anticipate the fit of process steps and cultural values for contextualization in the public sector, implications for EAGLE are clarified after this review (Ch.2.3).

2.2.2. Adaptivity of OER and e-Learning courses

The following section will briefly discuss adaptivity of OER and e-Learning courses; strategies which allow automated contextualization of applications to user characteristics. Given the difficulty to create comprehensive adaptive systems, however, the section will focus mainly on the role of metadata and automated response options. Depending on the confidence of knowledge about learner needs in public sector contexts, whether and how to implement adaptive mechanisms in the EAGLE platform will be discussed in deliverables of work-package five.

One model for automated contextualization is provided by Richter and Pawlowski (2007). The authors define sixteen context-blocks and corresponding metadata to attach corresponding information to a resource. These attributes are saved together with the

¹ In CAP a light version of MCM is integrated; the first four factors are merged into one aspect (pedagogical design).

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resource and can be retrieved for matching mechanisms to optimize search of learning resources.

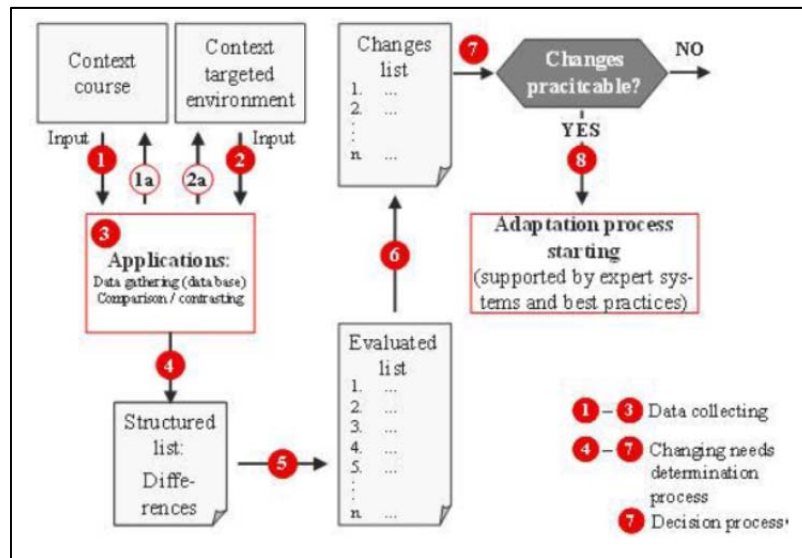


FIGURE 5: ADAPTATION PROCESS (RICHTER & PAWLOWSKI 2007)

So far, there are no standards for culture metadata. Pawlowski and Richter (2007) have discussed the need to standardize approaches in this respect. To secure that EAGLE is interoperable in terms of formats and metadata, work-package five (deliverable D5.1.) has addressed specifications. For further discussions about this point, refer to section “Specifications and Interoperability Standards” in a deliverable of WP5 (EAGLE Consortium 2015b)

2.3. Summarizing implications for EAGLE

EAGLE will develop an open platform which is adaptable and adaptive. Given the difficulty of elaborating strategies in a particular context, however, the focus is set on strategies for adaptable resources and systems. Though an automatic matching of user and OER metadata is discussed later on, it will be decided in a deliverable of WP5 whether and how to include adaptive elements.

EAGLE will build upon existing models including their empirical results, strategies and recommendations to facilitate culture contextualization of OER in the public sector. The appropriateness of cultural dimensions needs to be re-assessed for the public sector (since barriers and learner needs depend on the context). The review of studies has shown that research has focused on culture contextualization in educational and private sector contexts so far. Several strategies have been developed and appraised in different projects. Culture contextualization in EAGLE will benefit from these experiences and build upon the received approaches. What can be learned is outlined in the following:



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TABLE 1: IMPLICATIONS FOR EAGLE

Aspect	Considerations
Culture contextualization	Begins with the initial creation of a resource. Is a cyclical process. Ends with the (re)-publishing of a (re)contextualized learning resource.. Builds upon a needs / context analysis.
Learner	Define their needs / context first. The defined needs / context analysis defines the degree of contextualization. User control over contextualization processes is recommended given low experiences.
Culture	May cover values as well as artefacts. Differs across contexts. To be addressed on the organizational level. Needs to be taken into account carefully (see next chapter)
Contextualization of learning resources	Can address functionalities, applications of the system as well as content of the resource The whole resource, parts and new resources can be changed, added or permuted in the process

Apart from these key take-aways, one can ask: why can the models not unequivocally be taken over? It has been outlined, that key barriers and focus of contextualization vary from context to context (Pirkkalainen et al. 2014). Developing recommendations requires knowledge on the respective learner needs (Green et al. 2006; Richter & Pawlowski 2007). However, the knowledge about learning resource exchange and related creation /adaptation processes in the public sector is low. To avoid culture bias in contextualization, the fit of level and cultural content addressed in the models needs to be assessed (Beuselinck et al. 2007; Henderson 2007). Moreover, the models above provide elaborated approaches but yet they are empirically sound. As a result, EAGLE will have to make another step and conduct culture analysis and assessment of contextualization processes (& models) concerning their fit for the public sector. This section provides a general background for assessment and for developing a state of the art culture contextualization model for public sector contexts.

Taking these points into account, the following chapter will report the culture analysis.

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3 Culture analysis: basic considerations

Executive Summary: The term “culture” must be defined before developing a culture contextualization model. Whereas the previous chapter focused on contextualization processes this chapter elaborates on *culture models* more precisely. By comparing previous approaches, the chapter will lead to the intermediate conclusion that work in EAGLE will build upon previous models but the factors which are the most relevant for public sector culture will have to be defined by further research.


3.1. Why culture is essential in E-learning and use of OER

The previous chapter has presented several models for culture contextualization. Still, the concept of culture has been addressed only on a high level. Why is culture so important for OER and e-Learning resources? It is not in the scope of this deliverable to provide an in-depth answer but generally, socio-cultural factors appear as the core drivers and constraints to (re)use learning resources across context (Richter & McPherson 2012). Cultural values and customs may irritate learners from different context and disrupt cognitive learning processes (Katz & Te’eni 2007). Barriers such as different languages or ‘not invented here syndrome’ constrain the exchange of learning resources (Pirkkalainen & Pawlowski 2014).

In order to facilitate meaningful learning via OER, authors **need to (re)contextualize OER**; create culture sensitive OER for others and adapt OER from others for personal means and according to local conditions. Which factors in a socio-cultural context are dominant is paramount subject to research. **Cultural factors needs to be elaborated for a given context to provide guidance and technological support to re-contextualize OER.**

Culture, however, is a term used in many contexts and situations. One may refer to culture on a level of values, artefacts, routines, or basic assumptions among others (Richter, 2014). **Which level and content of culture needs to be addressed depends on whether groups or organizations are subject to research and which activities are of concern.** Also for learning in the public sector domain, no standard approach to elaborate on cultural influences is defined (Keraudren 1996; Beuselinck et al. 2007; Bouckaert 2007; Barette et al. 2012).

In order to come to an appropriate definition of culture for EAGLE, the first question to answer in this chapter is thus: **whether to adapt existing concepts or whether to develop a unique culture model.** To answer this question, the following sections will start with presenting two prominent **cultural models in e-Learning** for private / educational contexts (3.2.). They give an initial idea about the meaning of culture in e-Learning and contextualization strategies. Subsequently, **how culture is conceived in public administrations (3.3.)** is briefly reviewed. This will enable to scope whether culture in private/educational contexts and public administrations roughly correspond. Based on this initial comparison, **the best way how to conduct cultural analysis in EAGLE (3.4.)** will be defined.

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3.2. Concept of culture and implication for contextualisation

The following section will present two dominant approaches to elaborate on cultural factors in e-Learning and the use of OER. **Their goal, concept of culture and implications for contextualization** are briefly evaluated. Altogether, this will provide the background to compare whether the meaning of culture corresponds to factors in public administrations.

3.2.1. Culture in e-learning and OER uses in educational contexts

The *Multiple-Culture Model* is an instructional design approach which aims at developing digital learning resources, sensitive to multiple values, educational activities and worldviews (Henderson 1996, 2007). The main premise is that design choices of a particular instructional approach (such as assessment techniques, learning tools and interaction among students and teachers) can amplify certain values and worldviews while marginalizing others. Hence, instructional design not only may be “... culturally uni-dimensional and exclusionary” (Henderson 1996, p.89) but also representing simplified stereotypes. Critique concerning the last point addresses cultural naiveté, political correctness, inclusion of the exotic, or tokenism among others (Henderson 2007, 1996).

To design a culturally sensitive approach, instructional design has to balance different ‘cultural logics’ (Henderson 1997, p.94). The main factors to consider are fourteen **values** with regard to educational, epistemological and communicational convictions (see Figure 4 below). Integrated in Edmundson’s CAP model are: user activity, experiential value and accommodation of individual preferences. Differences are assistive cultural characteristics, while the others as critical characteristics (Edmundson 2007b, pp.2262). The concept of culture here is mainly on a value level. According to the model, there are two opposite phenotypes of the value, such those to role of the instructor: either teacher proof or equalitarian facilitator (Edmundson 2007b, pp.2262).

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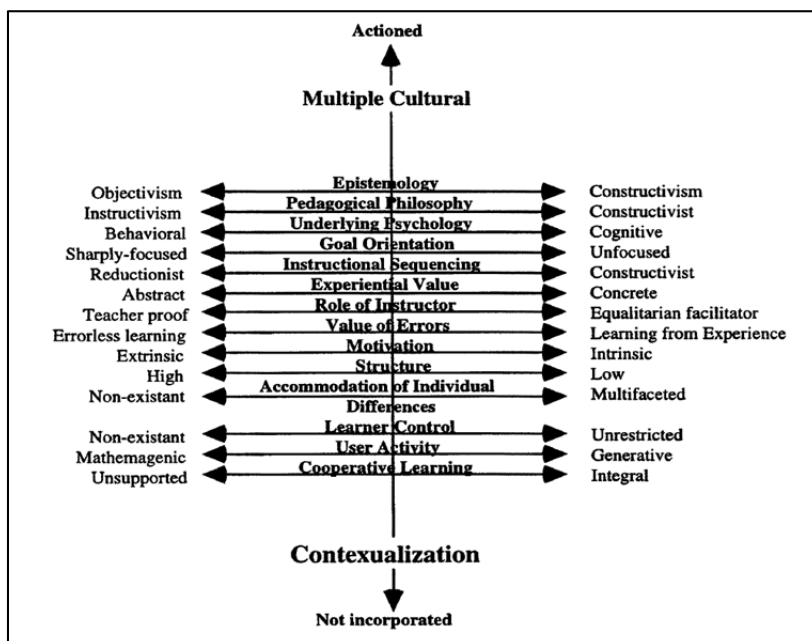


FIGURE 6: MULTIPLE CULTURE MODEL (HENDERSON 1996)


Based on the dimensional analysis of the resources or creation plan, preferences for course conduct and design of learning resources can be inferred. Another premise is thus, that contextualization needs (learning preferences) can be associated to one characteristic of a value as opposed to the other one. Yet, there is an evaluation grid which tells how to map results of the CAP to a certain design strategy (i.e. if some values emphasize high adaptation need and others a low need). This point will be discussed later again. In the following another culture model will be presented.

3.2.2. Culture in organizations

Probably the most prominent concept of culture in organization is developed by Hofstede (2001). The concept is a set of six value dimensions which serve to elaborate cultural differences.

Culture is, according to Hofstede (2001, p.4), a mental program which 'partly predetermines human behaviour'. For learning something new and acquiring knowledge or changing routines, a person has to know his/her value (dimensions) and has to unlearn these patterns (pp. 3f.). To become clear about the patterns, Hofstede (2001) provides a questionnaire and items that result in the following six values dimensions.


1. **Power distance index:** "the extent to which the less powerful members of institutions and organizations within a country expect and accept that power is distributed unequally. Institutions are the basic elements of society, such as the family the school and the community, organizations are the places where people are (Hofstede 2001, p.61)
2. **Individualism** pertains to societies in which the ties between individuals are loose: everyone is expected to look after him- or herself and his or her immediate family. Collectivism as its opposite pertains to societies in which people from birth onward are integrated into strong, cohesive in-

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- groups which throughout peoples lifetime continue to protect them in exchange for unquestioning loyalty (Hofstede 2001, p.92).
3. **Gender:** A society is called masculine when emotional gender roles are clearly distinct: men are supposed to be assertive, tough, and focused on material success, whereas women are supposed to be more modest, tender, and concerned with the quality of life. A society is called feminine when emotional gender roles overlap: both men and women are supposed to be modest, tender, and concerned with the quality of life (Hofstede 2001, p.140)
 4. **Uncertainty avoidance:** can therefore be defined as the extent to which the members of a culture feel threatened by ambiguous or unknown situations: through nervous stress in a need for predictability: need for written and unwritten rules (Hofstede 2001, p.191).
 5. **Long-Term Orientation:** stands for the fostering of virtues oriented toward future rewards- in particular, perseverance and thrift. Its opposite pole, short term orientation, stands for the fostering of virtues related to the past and present - in particular, respect for tradition, preservation of "face", and fulfilling social obligations (Hofstede 2001, p.239).
 6. **Subjective Well-being:** Indulgence stands for a tendency to allow relatively free gratification of basic and natural human desires related to enjoying life and having fun. Its opposite pole, restraint, reflects a conviction that such gratification needs to be curbed and regulated by strict social norms (Hofstede 2001, p.281)

The survey model is applied and validated across different organizations and sectors. However, it is mainly developed for the national level. While it is applied to e-Learning analysis as well, it is criticized: Firstly, the results allow elaborating cultural differences on the national level but fail to suggest corresponding implications for contextualization (Richter & McPherson 2012). Secondly, the model is not granular enough to elaborate differences in lower aggregation levels, such as classrooms or organizations (Richter & McPherson 2012). Correspondingly, culture differences that may be important during an learning resource exchange in this respect, (i.e. between organizations in one country) are difficult to analyse with this model. Compared to other culture models such as the MCM above, the values appear to correlate (Tapanes 2011). But while the model enjoys great uses in the private / educational sector, it is less prominent and appraised for uses in the public sector (Beuselinck et al. 2007). The model of (Hofstede 2001) allows to state cultural differences on the national level. Whether it can be used for contextualization on a granular perspective and in the public sector particularly, requires a thorough re-evaluation.

Generally, the models present two ways how to approach culture in e-Learning. Given their empirical and academic relevance, they provide a high level frame for approaching culture in contextualization for EAGLE. Yet, the appropriateness of values addressed in the models has to be reassessed for the public sector. Not only do values between Hofstede's (2001) and Henderson's (2007) cultural perspective differ but they are also hardly applied to (e-Learning in) public sector contexts (Bouckaert 2007). Unless concepts of culture in public administrations are scoped, it cannot be defined whether the models can be equivocally taken over. A brief review of cultural concepts in public administrations is therefore addressed below.

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3.2.3. Culture in public administration


Culture in public administrations can refer to norms, values and cultural dimensions in the context of public organizations (Jamil et al. 2013). There are only few empirical studies about culture in the domain. Yet, the interest in the role of administrative culture is rising, especially with regard to the success of Government reforms (Jamil et al. 2013; Bouckaert 2007). Concepts of culture have been drawn from cultural theory, organizational learning (Keraudren 1996; Moynihan & Landuyt 2009) Mahler as well as private sectors (Bouckaert 2007). Yet, approaches from other domains including Hofstede are hardly perceived as adequate (Bouckaert 2007; Beuselinck et al. 2007). They often fail to integrate sector specific characteristics, such as political values (Bouckaert 2007; Moynihan & Landuyt 2009).

One example of these specific values is Weberian values or new public management principles. Being accountable, providing confidential services and acting with discretion for the public good represent only few main convictions of employees in the public sector. Following Langford & Seaborne (2003), these principles may be essential for e-Learning activities as well. For example, as they shape confidence to involve in online platforms:

“There are a host of reasons why members of the municipal policy community might not wish to see this [internet involvement] occur. [] First, the very transparency of the invited discourse may not be to the liking of many municipal administrators. The profession is perilous insofar as one of a municipal official’s most unforgivable sins is to “mis-speak” in public. Although open entry and participation may be commendable principles for many virtual communities, the same ease of entry and transparency are certain to be anathema to many local officials.” (Langford & Seaborne 2003, p.244).

Apart from referring to values of transparency and openness, studies also direct attention to other levels of culture. Chen presents a quantitative analysis on base of the development of innovation model (Rogers 1995 in Chen, 2014). Factors include the educational background, gender, expectations and preconditions of e-Learning. Another exceptional study made by Eidson elaborates on an e-Learning course and extracts environmental factors of organizational culture (among others). Cultural factors are workplace distractions (e.g. Eidson 2009, p.145), available infrastructure (e.g. Eidson 2009, p.146) as well as social interaction both on- and offline (e.g. Eidson 2009, p.147).

Not going into details of administrative culture here, the review indicates that culture in public sector contexts is not represented by the values of Edmundson (2007b) and Hofstede (2001) In contrast, it is marked as a ‘quality criterion’ to address more levels of culture than values (Beuselinck et al. 2007; Bouckaert 2007), namely culture as practices and social interaction (behaviour) on a group level. Moreover, ‘political’ values of the profession (accountability, discretion) appear to shape the knowledge exchange in the sector (cf. Stefanick & LeSage 2005). For developing a thorough culture contextualization model for the public sector, these points need to be integrated. Further analysis is needed to elaborate the appropriateness of received models for guiding contextualization in the public sector. Implications of this review are summarized in the next section.

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3.3. Implication for EAGLE: Re-using cultural concept or developing unique model?

The section has presented two high level approaches to elaborate on culture and contextualization in private/ educational contexts. Comparing their focus with cultural concepts in the public sector indicates that values hardly correspond. ‘Quality criteria’ for cultural concepts in public administrations (Beuselinck et al. 2007; Bouckaert 2007) provide support that existing models from Hofstede (2001) or Edmundson (2007b) cannot simply be taken over. At the same time, no similarly advanced approach such as CAP appears to exist in the public sector (to guide public employees in contextualization of e-Learning and OER).

Following these basic considerations, it can be argued that existing culture (and contextualization) models can serve to guide developing an appropriate model in EAGLE. For defining the *content* of culture, however, a more thorough literature review needs to be performed. Only by knowing about most relevant cultural factors in public administrations, a synthesis with models in other domains can be made. In this way, a meaningful, state of the art culture contextualization model can be developed for EAGLE.

By refining existing models, further weaknesses of the existing ones can be overcome. For example, the cultural concept of Hofstede outlines no consequences how to improve OER. Concerning CAP, previous studies criticize that value dimensions are difficult to operationalize and dimensions are too abstract (Richter & Pawlowski 2010; Tapanes 2011). The culture model developed in EAGLE will take into account previous concepts and critique. It will extend existing approaches and refine them for the contextualization approach of OER within the public sector.


The following chapter will present the methodology for this aim.

4 Methodology

4.1. General research approach

The research approach is based on design science research (Sein et al. 2011) and follows a mixed method approach with particular focus on qualitative methods (Creswell & Plano-Clark 2011). The epistemology and ontology of the approach is interpretative and constructivist (cf. (Van de Ven 2007; Creswell & Plano-Clark 2011). To design a coherent methodological approach, the understanding of culture and sensitizing (meta-analytical frame) of culture (Van de Ven 2007) has to be defined. This frame enables avoiding interpretative bias of study results; it does not predetermine the results or direction of influence but helps to assess which range of cultural factors is to consider in public administrations.

According to the research principles (Sein et al. 2011; Van de Ven 2007), the following sections will firstly, define a meta-theoretical concept of culture (4.2.). Secondly, the conduct of the literature review (4.3.) will be presented. Related to this, steps concerning the analysing of results are defined. Thirdly, conducting an expert validation is explained (4.4.) and related to this are the steps for analysing the results.

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4.2. Meta-theoretical concept of culture

To avoid interpretative bias in a constructivist, interpretative research approach, researchers have to clarify their perspective on the research subject. A sensitizing frame can be defined which guides the analysis and enables to reflect whether all facets of the phenomenon were addressed.

One of the few concepts addressed across studies in the private and public sector is the cultural model of Schein (Schein 2010, 1990; in Barette et al. 2012; Marschollek & Beck 2012). It provides a conceptual perspective on different levels of culture without predefining their influence per sé. The levels cover: (1) basic assumptions, (2) espoused beliefs (values) and (3) artefacts (behavior), briefly explained in the following.


- (1) **Basic assumptions** are deep, non-confrontational assumptions that are shared within a group. "...a set of basic assumptions defines for us what to pay attention to, what things mean, how to react emotionally to what is going on, and what actions to take in various kinds of situations." (Schein 2010, p.28).
- (2) **Espoused beliefs** are considerations and values "what ought to be, as distinct from what is" (Schein 2010, p.25). They may become basic assumptions when socially validated but often espoused values express rather general ideas and values expressed to one another.
- (3) **Artefacts** "...include the visible products of the group, such as the architecture of its physical environment; its language; its technology and products; its artistic creations; its style, as embodied in clothing, manners of address, and emotional displays; its myths and stories told about the organization; its published lists of values; and its observable rituals and ceremonies" (Schein 2010, p.23)

This theoretical concept can advance culture analysis because it includes various levels of culture. Above and beyond the value level addressed in Hofstede (2001) and Edmundson (2007a), for example, culture can be conceived as basic assumptions, espoused convictions and artefacts / behaviour. Since it is applied in private, educational and public sector context it is assumed that the categories are suitable for the means of review in EAGLE. Correspondingly, the results of the analysis will be categorized under this perspective. Please refer to the Appendix for more information.

4.3. Literature review

The literature review is oriented on Webster & Watson (2002). The guiding question is "*which socio-cultural factors in the context of public administrations shape e-Learning activities*". E-Learning activities refer to the creation, general use and adaptation of digital learning resources. While a more focused review of e-Learning scenarios would be valuable (to corroborate the elaborated factors), the literature on the topic is limited. Thus, the focus of review was increased to retrieve a sufficient scope of literature.

To structure the review as a conceptual as well as categorical review, an analytical matrix was defined (Webster & Watson 2002). It has to be compatible with the concept of culture above (Schein 2010). Furthermore, it needs to be neutral, so neither the content nor possible levels of culture are predefined (cf. Frank 2006).

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4.3.1. Analytical matrix

One neutral analytical matrix to represent culture is developed by Richter (2014). By comparing the most relevant cultural models in the information systems (IS) domain, a **culture cube** was configured which serves to analyse and compare study results and models about culture.

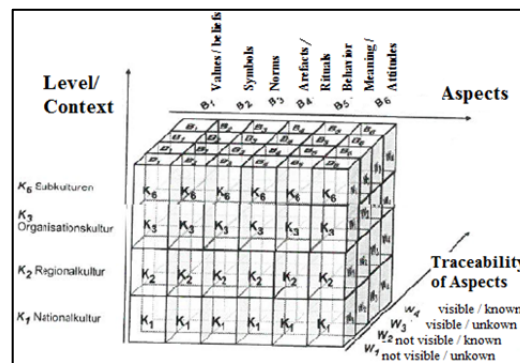


FIGURE 7: CULTURE CUBE (RICHTER 2014)

It does not to predefine a cultural concept but sensitizes readers about the various phenotypes of culture (own translation from Richter 2014, pp.177-181):

Basic assumptions

Values are ground assumptions, implicit aggregated state of opinions and the core of cultural dimensions. Example: equality.

Esposed theories and convictions

Non-formal artefacts are symbols which have an agreed upon meaning and routines which are coordinated and repeated but have no formal explicit procedure.

Attitudes refer to convictions, beliefs and opinions which have a low sustainability compared to values.

Artefacts


Dominant symbols are visual as well as intangible artefacts, real personalities, stereotypes known across borders. Example is a crucifix.

Norms are the normative translation of values; they are written and explicit rules, frameworks or process definitions. Examples are laws, code of conducts or ethic codes.

Formal artefacts are symbols and rituals which have a corresponding norm or follow official, precise principles. An example is a Talar.

Apart from these phenotypes, the culture cube requires to define the context and traceability of culture of a model: *Context* refers to the broader geographical, organizational level addressed. Examples are national, organizational, group level or ethnic communities (Richter 2014, pp.174-177). *Traceability* refers to a combination of personal perceptibility and obvious appearance (Richter 2014; pp.181-186).

This meta-analytical grid works with the concept of culture developed by Schein (as indicated by the bracketed terms; cf. Richter 2014, pp.70ff.). The culture cube does not anticipate which levels are relevant to culture in e-Learning and public administrations. Thus,

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it provides a broad and neutral matrix and meets the criterion for an analytical matrix (cf. Webster & Watson 2002; Frank 2006). Further explanation of the analytical matrix is presented in the Appendix.

4.3.2. Choice of literature and resources

Literature for the review has been retrieved from the data bases Springer, IEEE, Taylor Francis and ACM (2005-2013). Terms for the search were a combination of: culture, training, learning, public administration (organization / sector/ employee), civil servant. The terms were searched in metadata and full-text. The high range of resulting findings was directly reviewed for their relevance. For example, policy learning, studies about cultural competences, and journal indices were excluded. To conduct a purposeful but sound review, further literature from snowballing and previous reviews were included.

4.3.3. Analysis of results

The analysis of the literature review and expert validation was guided by principles of grounded theorizing (Corbin & Strauss 1990) and pattern matching (Pentland 1999, pp. 713,718; Trochim 1989). The overall steps can be defined as the (1) coding of cultural factors following the culture cube (2) constant comparison with dimensions of Edmundson (2007a) and Hofstede (2001), (3) axial coding of the factors in relation to uses of OER (in order to trace the direction of influence).

As will be presented in chapter four, this analysis will derive at a cultural model for EAGLE which builds upon nine constructs. The constructs aggregate dominant cultural influences (subcategories or factors) on the exchange of OER- that is creating and sharing OER with others as well as taking and re-using OER of others.² These nine constructs were taken to the expert validation that is explained in the following.


4.4. Evaluation design (expert validation of the cultural model)

The evaluation approach of the culture model in EAGLE is chosen in accordance with different evaluation perspectives and availability of experts in the domain. The evaluation criteria, approach and documentation are presented in the following.

4.4.1. Evaluation approach

An evaluation of a cultural concept can be made from different perspectives and logics (Van de Ven 2007). The main evaluation pillars are objectivity, reliability and validity of a construct (Rammstedt 2004). But also the practical relevance and economic efforts of implementation can be of concern, especially in the context of projects (Lawshe 1975; McKenzie et al. 1999; Esposito & Rothgeb 1997, Krosnick & Fabrigar 1997, 1997). For evaluating an emerging cultural construct, it is recommended to assess whether the factors reflect the *content of culture* adequately; that is, the **content validity needs** to be evaluated. Secondly, it is valuable to validate the **thematic relevance** of the factors given the infancy of research in the domain. This includes, among others, to appraise its strength in terms of credibility and plausibility compared to existing approaches (Van de Ven 2007)

² The focus of the research question and analysis was tightened with on-going research.

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Both aspects (relevance, validity) can be assessed in qualitative and quantitative designs. *Quantitative approaches* tend to be used once a construct is empirically validated. They follow a predetermined structure and allow drawing particular implications. *Qualitative approaches* in contrast, are less structured but more suitable to enhance understanding why constructs are valid, for example, since the structure allows experts to explain their judgements (McKenzie et al. 1999). For a model which shall be appropriate for different cultural contexts as in EAGLE, this qualitative reasoning may be particularly valuable to outline conditions why and how certain factors are relevant or not.

Following these basic considerations, it is **decided to follow a mixed-method evaluation** which combines advantages of qualitative and quantitative designs. A prominent model in this respect is approach of McKenzie et al. (1999). It is used and appraised in similar research efforts (e.g. Barette et al. 2012). The adapted steps will be presented in the following section (see McKenzie et al. 1999, p.312). Since the approach of (McKenzie et al. 1999) focuses on content validity and thematic relevance from the perspective of experts, further criteria to assess the strength of the emerging model will be defined subsequently.

4.4.2. Evaluating the content validity of cultural constructs and factors

In the following, steps for conducting an expert evaluation of the content validity are presented. The methodology of McKenzie et al. (1999) is adapted as follows:

1. Preparation
 - Select experts according to predefined criteria
 - o In this task and project context, an expert is purposefully selected depending on his domain knowledge, availability and experience with the topics. Further segmentation was made regarding their country origin (Germany (n=6), Ireland (n=1), Montenegro (n=2), Luxembourg (n=2)) and gender balance (5 female: 6 male) following Cresswell & Plato Clark (2011) and McKenzie et al. (1999).
2. Interview
 - Ask for the thematic relevance of addressed topics (e-Learning, use of OER and culture) within their current context and work.
 - Ask to validate the overall factors by their subcategories concerning their appropriateness (This is by judging whether the operationalized factors are essential, useful but not essential and not necessary).
 - Ask to rank the factors according to their importance (3 important, 3 unimportant factors).
 - Ask for a revision and missing factors.
3. Analysis
 - Calculate the content validity ratio in general and strict terms
 - o CVR1: General terms: nr of panellists indicating the subcategory is essential and useful, minus the nr of panellists /2 divided by the nr of panellists / 2) (cf. Barette et al. 2012)
 - o CVR 2: General terms: nr of panellists indicating the subcategory is essential, minus the nr of panellists /2 divided by the nr of panellists / 2).

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- Assess the level of significance according to the nr of panellists and CVR.
 - o $CVR \approx \geq .59$ (one-tailed test, $p < .05$).
- Assess the subcategories which do not meet the significance level.
 - o Evaluate the subcategories with regard to expert arguments.
 - o Evaluate the conditions (why / when) subcategories become relevant in the qualitative interview.

The result of this model is a qualitative and quantitative elaboration of the relevance and adequacy (appropriateness) of the constructs and subcategories from the literature review. Above and beyond with this evaluation, the plausibility and credibility (Van de Ven 2007, p.125) of the model has to be reassessed both for e-Learning and use of OER as well as public administration context. The corresponding step is explained below.

4.4.3. Validating the cultural model

Together with the expert evaluation, it is important to assess the results of the literature review as well as final expert validation regarding the strength of assumptions. Particularly, the plausibility and credibility of criteria need to be discussed. These criteria can be defined as:


Plausibility: the model balances received assumptions and surprise of unnoticed conjectures of factors (constructs and subcategories, Van de Ven 2007, pp.110f.). “A conjecture is plausible when it appears to be reasonable, believable, credible or seemingly worthy of approval or acceptance, even though it may or may not be true (Random House Unabridged Dictionary; Van de Ven 2007, p.110).

Credibility: “The credibility of a theory is judged by comparing it with rival plausible alternative theories at the time of the investigation” (Van de Ven 2007, p.126). Assumptions need to be falsifiable and in this respect, generalizable from a particular case.

To validate the results of the literature review (construct and subcategories) a dedicated paragraph will be provided in the results section. It elaborates the relevance of each construct and clarifies how other studies approach the construct. Moreover, the strength of the factor to meet salient difficulties in the public sector will be addressed. The paragraph will outline how the factor corresponds to the requirements elicited in EAGLE (D2.2.A.).

Last but not least, general quality criteria to advance the state of research on culture contextualization models (see chapter 2) as well as research on administrative culture can be addressed. Firstly, the model has to address the meso- (organizational) level of administrations (Bouckaert 2007; Jamil et al. 2013). Secondly, the role of political values and artefacts should be integrated (Keraudren 1996; Jamil et al. 2013). Thirdly, the model is easy to apply by non-experts (Tapanes 2011; Pawlowski & Richter 2010). The criteria outlined in this section will be discussed in chapter four (4.4.) and six (6.2.).

The methodology for the culture analysis has been presented. Further details of the validation approach can be found in the Appendix. The following chapter four will now present the results of the analysis for each of the elaborated factors.

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5 Results of the culture analysis

Executive Summary: The initial culture analysis provides several factors and constructs that are relevant to open e-Learning activities. They cover Openness in Discourse, Learning at the workplace, Superior support, Spirit of open e-Learning platforms, Formats for exchange, Roles and activities, Collaboration partners, Organizational Resources and Regulation. Assumptions behind the constructs and findings in associated studies are presented in the following. Yet, some of the constructs will be rejected in the expert validation. To see the consolidated cultural model, please begin reading from chapter 5.2.

5.1. Results of the literature review: initial constructs and subcategories

The literature review has outlined that about seventeen values, three dominant symbols, eight norms, twelve formal artefacts (routine, symbols), sixteen informal artefacts (routines, symbols), nine attitudes (including personal characteristics) and four other aspects (demography, external pressure) represent cultural factors in the context of learning in public administrations. This range has been synthesized with regard to the cultural concept (Schein 2010), the CAP model (Edmundson 2007; Henderson 1996) and noteworthy empirical studies about culture and learning in public administrations (e.g. Barette et al. 2012).

As a result, nine constructs have evolved. The constructs reflect a synthesis of basic assumptions, espoused convictions or artefacts (routines) that influence whether cultural context in public administrations is positive or negative towards the exchange of OER.


In the following, the factors are presented. Firstly, the overall construct is described. Based on the description, particular subcategories (or dimensions) are defined which will be subject to expert validation as well. Secondly, the strength of this factor with regard to its influence on the exchange of OER in previous studies and in the EAGLE project (D2.2.A; EAGLE Consortium 2015a) will be assessed.

5.1.1. Basic assumptions

Openness in discourse: Free space to apply knowledge

The factor **free space** describes basic assumptions about the openness of a group to innovate work routines, to share knowledge and communicate about success and failure in equal terms. The factor touches upon different levels and cultural routines that express related assumptions, such as giving and receiving feedback, communicating with peers, discussing problems as well as errors. Basic assumptions about these activities are reflected in many studies (Greiling & Halachmi 2013; Kalantari 2005; Yao et al. 2007; Salminen & Mäntysalo 2013).

What are aspects or subcategories that make assumptions behind this construct more tangible? Reviewing the studies, one dominant category concerns the assumption **whether to apply new knowledge** to everyday work, a continuum between working according to predefined rules or to innovate based on new insights (Hedvicakova 2013; Eidson 2009 pp. 106–111). Either assumptions prevail that public employees shall depend on their superior, or shall be free to take initiative and realize new ideas (e.g. Rahman et al. 2013; Ho et al.

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2010; Arellano-Gault 2013; Imran et al. 2013; Caron & Giauque 2006; Wu & Xu 2011; Gustavsson 2009; Hedvicakova 2013). Related to this point are assumptions with whom (i.e. how) to communicate and **particularly discuss problems** within the department (Barette et al. 2012, p.143). Another extreme assumption in this respect is that knowledge and information is conceived as power (Amayah 2013; Yao et al. 2007). As a consequence of this assumption, knowledge is not shared and making an error is perceived as a great failure that shall be avoided by all means (cf. Stefanick & LeSage 2005). A third subcategory is therefore the assumed **value to discuss errors and consequences** which shapes the exchange of knowledge resources in the context. Altogether, the construct free space to apply knowledge is built upon the basic assumptions whether to:

- 1: innovate work-practices by applying new knowledge as opposed to following rule-based (predefined) procedures.
- 2: discuss problems and ideas openly within the department as opposed to discrete discussions (discrete in terms of persons and topics addressed).
- 3: discuss errors and consequences as opposed to discrete discussions (in terms of persons and topics).

Strength: The influence of this construct can be deduced from the study of Moynihan & Landuyt (2009) and Barette et al. (2012). One can assume that the assumptions of having free space to foster learning activities (Moynihan & Landuyt 2009, p.1101). The more work routines and errors are put into question, the better an organizational culture suits learning and knowledge sharing activities (Barette et al. 2012, p.143). Is the construct and subcategories relevant for current problems or barriers to open e-Learning? Compared to results of the initial requirements analysis in EAGLE (D2.2.A.; EAGLE Consortium 2015a), the barrier 'lack of internal knowledge sharing' (requirements nr. 2.2.; see Appendix 'excuse') relates to the space to apply knowledge. The preference for informal contacts among close peers and the lack to communicate with others within the department are likely furthermore symptoms of experiences that problems and knowledge are not shared.

Learning at the workplace

The construct learning at the workplace addresses basic assumptions about the role of public employees and superiors in the evaluation and choice of learning resource. In the review of studies, e-Learning courses are mainly developed by dedicated personnel. It is less the case that or left unclear whether at all public employees are allowed to create their own learning resources and exchange them with others. For using OER, however, these processes need to be accepted and supported on a common basis. Compared to values in the model CAP (Edmundson 2007) the construct learning at the workplace is a practical approach to capture the *role of learners and teachers* (cf. Edmundson 2007, p.270). It stipulates on a value dimension that: learners shall either be free to explore and choose learning resources, or superiors structure the course, related resources and paths to evaluate acquired knowledge. The value is invaluable to inform pedagogical and instructional design choices (Tapanes 2011; Hedvicakova 2013). In the literature review of studies in the public sector, instructional concepts play in important role in e-Learning activities as they shall enable public employees to acquire knowledge (cf. Yunus & Salim

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2008; Sannia et al. 2009). As a result, to improve cultural learning experiences, it needs to be elaborated whether basic assumptions prefer whether:

- 1: employees or superiors choose the learning resource (OER).
- 2: employees or superiors structure the evaluation of learning from OER.


Strength: Studies from Sannia et al. (2009) and Bimrose et al. (2014) support the relevance of pedagogical assumptions and values for learning experiences. However, previous studies do not allow quantifying the influence of the factors. It will be subject to validation whether one or the other category has a positive influence on the use of OER. Compared to the initial requirements for EAGLE (D2.2.A., EAGLE Consortium 2015a) the barriers the lack of coordinators (1.1.c.), rejection of compulsory learning (2.3.a.) and reported need to integrate OER into existing training approaches (1.1.a.; see Appendix ‘excuse’) support that the construct addresses salient problems.

Formats for exchange

The factor formats for exchange reflects basic assumptions about knowledge and its related exchange. On the one hand, knowledge can be understood as an intangible resource which is acquired in informal communication. On the other hand, knowledge is defined as something that can be transferred and acquired irrespective of the context (cf. Schraeder et al. 2005; Gustavsson 2009; Sannia et al. 2009; Eidson 2009; Langford & Seaborne 2003; Schraeder et al. 2005; Yao et al. 2007). In the public sector, knowledge is valuable when it can be applied to the administrative work (Hedvicakova 2013; Eidson 2009, pp. 106–111). Correspondingly to this, learning and knowledge exchange is evaluated for its means to be applied to daily work. For example, the value of online tests in the platform for measuring knowledge acquisition is low because knowledge in repetitive tests is abstract instead of applied (Eidson 2009, p. 106). Moreover, public employees evaluate whether formats are suitable to acquire knowledge; suitable are *“[c]ase studies, or real-life examples... particularly relevant in job training...”* (Eidson 2009, p. 107). To capture the construct formats for exchange, one thus has to address assumptions concerning the:

- 1: content format suitable to exchange knowledge.
- 2: media types considered suitable.

Strength: The conception of knowledge and related formats of exchange resemble values in the CAP model (Edmundson, 2007a). Indeed, the CAP reflects basic assumptions about the knowledge conception such as epistemology, as well as the media type and content of e-Learning courses. Based on the initial requirements analysis in EAGLE (D2.2.A., EAGLE Consortium 2015a), it can be supported that the kind of media type to be used in the EAGLE platform was subject to concerns for participants. One set of requirements was related to their usability as good, validated and multi-media contents (requirements nr.2.4.; see Appendix ‘excuse’).

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5.1.2. Espoused convictions

Spirit of open e-Learning platforms

The construct ‘spirit of open e-Learning platforms to exchange OER’ represents contrasting convictions about the means of the technology, particularly the means of open e-Learning applications. Depending on the coherence the perceived spirit, the use of a platform can be facilitated or constrained. On the one hand, one may perceive OER and open platforms as an enabler for flexible, convenient and interactive learning (Yang & Ruan 2007; Chen 2014). E-Learning systems may be conceived as a means for autonomous, self-dependent advancement of knowledge (Hedvicakova 2013; Ho et al. 2010). But the spirit may not only express democratic but also economic goals and convictions (cf. Remtulla 2007). One related conviction is that e-Learning technology is a cheap, efficient solution to overcome managerial shortcomings (cf. Langford & Seaborne 2003; Stefanick & LeSage 2005). Also to conceive e-Learning as a monitoring tool for work performance of public employees is an indication of an economic spirit (Yang & Ruan 2007). Overall, the construct spirit thus alleviates convictions whether the open platform is used as:


- 1: a medium for social contacts and personal exchange.
- 2: as a medium for performance assessment and monitoring.

Chen elaborates that perceived characteristics of learning shape the perceived effectiveness of e-Learning platforms (Chen 2014, pp. 456,458,460). One can assume that perceiving open platforms as to serve social contacts and personal exchange is met with an increase of exchange activities. Based on the initial requirements analysis in EAGLE (D2.2.A., EAGLE Consortium 2015a) the barrier ‘rejection of compulsory learning’ (requirements nr. 2.2.b; see Appendix section ‘excuse’) supports the role of the construct.

Roles and activities

The construct roles and activities of learners and stakeholder represents espoused convictions about online interaction. It represents convictions which activities are understood appropriate to the exchange of open knowledge resources and roles within a group. Reviewing the studies outlines that the mere interest among colleagues to exchange and involve in e-Learning is not necessarily an important factor. Indeed, the perceived ease of use appears to have a positive influence on activities within e-Learning environments. Also the technical aptitude of learners reflects why employees are reluctant to involve (pp.77-79). But synthesizing these and associated factors appears to address the conviction whether activities of exchange are considered worth to execute despite emerging problems. Also whether a position is considered an active or passive role in the exchange is an associated conviction above the individual aptitude and perceived ease of use. When capturing the construct, the subcategories to address are thus convictions that public employees involve in the exchange of open knowledge resources:

- 1: despite problems associated to activities of adaptation.
- 2: depending on their conviction as an active user | passive user.

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Strength: While the results of associated studies indicate that active and keen public employees enrol in activities, the reviewed studies do not allow quantifying the influence of this construct. The initial requirements elicited for **EAGLE** (D2.2.A., EAGLE Consortium 2015a) indicate that the barrier ‘lack of responsible coordinators’ (requirements nr. 1.1.c.) may be associated to this construct. Furthermore, the barrier ‘lack of self-motivation to involve (requirements nr. 2.3.c. .; see Appendix ‘excuse’) may be addressed with the presented subcategories.

Supervisor support

The construct supervisor support addresses espoused convictions of higher level support to learning activities. From the review of studies, superior support plays a major role for realizing learning, invoking change, training programs and knowledge management (Schraeder et al. 2005; Rahman et al. 2013; Beuselinck et al. 2007; Greiling & Halachmi 2013; Yao et al. 2007; Gustavsson 2009; Yang & Ruan 2007). There are diverging espoused convictions how leaders shall support employees. On the one side, leaders encourage employees and live up to the principles of their demands (Schraeder et al. 2005) 500f.). Leaders motivate and promote the values that should be shared and followed. On the other side, supervisors mainly convey serious interest with the general direction of change (Yang & Ruan 2007, p.576). But the leader is not personally involved and no general agreement to realize learning activities is spoken out. The convictions outline complementary but distinct support types to capture the influence of superior support. It is to alleviate convictions whether a superior should provide:


- 1: active support, take on a motivating role.
- 2: symbolic support and guidance.

Strength: Barette et al. (2012) test a dedicated cluster of ‘leadership of learning’ which is robust and reliable to explain learning activities. However, no direction of influence can be quantified from this study. Based on initial requirements for **EAGLE** (D2.2.A., EAGLE Consortium 2015a) the barrier lack of support to learning by superiors and coordinators (requirements nr. 1.1.c. .; see Appendix ‘excursion’) appears to represent the construct.

Collaboration partners (group identification)

The construct ‘collaboration partners’ addresses basic convictions towards the appropriateness of exchanging open knowledge resources with others. It is about identifying with others as a group, assuming to understand others and to have a shared idea about working with peers. These issues are addressed in many studies (e.g. Gustavsson 2009; Imran et al. 2013; Marschollek & Beck 2012; Rahman et al. 2013; Eidson 2009; Moynihan & Landuyt 2009; Barette et al. 2012).

Generally, the perceived appropriateness to collaborate with others is shaped by cognitive boundaries. One subcategory emerging from studies is the **role of work domains**. Depending on the work domain, employees share the same terms and trust that partners understand their work approach. Imran et al. (2013), for example, elaborate on about

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transfer of e-Government concepts and report the need of adaptation as the use of terms is unclear (Imran et al. 2013, p.600f.). Apart from the work domain, Imran et al (2013) indicate that distance is subject to geographical borders. Also in e-Learning environments, studies indicate that origin of learners in a course is assumed to make an important difference in collaboration (Colazzo et al 2009). They program an e-Learning platform to represent the geographical locale of learners in order to facilitate choosing a partner. Hence, a second subcategory is the **geographical distance**. Apart from geographic boundary, studies which elaborate on collaboration and knowledge exchange between the public and private sector such as Marschollek and Beck (2012) experience similar difficulties. On the one hand, work values about how to accomplish work make the exchange of knowledge within project partners difficult. On the other hand, studies associate the diverging values to the sectorial background of members. As a result, two further subcategories to address are the **role of work values** and **sectorial background**. Summarizing the review of studies, the construct collaboration partners addresses convictions of public employees whether to exchange open knowledge with partners within the:


- 1: the work domain.
- 2: assumptions of work values.
- 3: sectorial background.
- 4: geographical background.

Strength: Studies indicate that identifying a similarity with collaboration partners has a positive influence on learning, for instance, working in the same work-domain or sharing work values raises potential to exchange knowledge resources (Marschollek & Beck 2012; Imran et al. 2013). The influence of perceived geographical distance cannot be quantified but appears to have a negative influence; the greater the geographical distance the more it is difficult to exchange knowledge resources. Results of the requirements analysis for **EAGLE** (D2.2.A., EAGLE Consortium 2015a) shows that the origin of OER authors is an important factor. The region is a perceived boundary to knowledge sharing activities (requirements nr. 1.3.). Not only is a linguistic difficulty associated to this factor, but also perceived differences in administrative processes (1.4. .; see Appendix 'excuse'). The role of work values can be supported by responses of Luxembourgish workshop participants, though it is not an overall barrier (i.e. mentioned by participants in more than one involved country).

5.1.3. Cultural artefacts and behaviour

Organisational resources

The construct 'organisational resources' represents espoused convictions about certain tangible artefacts. Resources can be cultural artefacts that represent the relevance of activity for a group of learners (Schraeder et al. 2005). Hence, they need to be available to express (symbolize) that the exchange of open knowledge resources is welcome and supported. Among culturally relevant organisational resources is a calm space where one has time to learn. At the front desks in public administrations, the time for learning is scarce; it is not accepted to spend time at the front desk for learning (e.g. Eidson 2009 pp.58f.). Hence,

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people need a **calm room to sit down and learn**. Apart from that, organisational resources which represent the importance of learning means investment in technical infrastructure. Furthermore, learning resources need to be available to exemplify how and what knowledge to create and share by help of open knowledge resources (Barette et al 2012, p.143). Cultural artefacts to capture with the construct organizational resources are thus:

- 1: a calm (physical) room.
- 2: internet infrastructure.
- 3: available learning resources.


Strength: From the literature review, the lack of organisational resources appears to be a major constraining factor. Moynihan & Landuyt (2009) indicate that a distinction is made in the operationalization between the absolute provided and perceived level of available resources (cf. Barette et al. 2012; Moynihan & Landuyt 2009, p.1105). From the initial results in **EAGLE** (D2.2.A.; EAGLE Consortium 2015a), the calm room and digital infrastructures are two main barriers to overcome for enabling the use of the EAGLE platform (requirements nr. 3.1.1.a.). Furthermore, the need to have exemplary resources (requirements nr. 3.1.2.b.; 1.2.a., check Appendix ‘excuse’) was perceived as a barrier if not present at the workplace.

Regulation

The construct regulation expresses the perceived need to have a regulatory frame that allows involving in learning activities. Regulation, policies and strategic documents present codified norms and rules (Barette et al. 2012; Schein 2010). They provide a normative frame how to use and understand activities surrounding e-Learning and OER exchange. From the review of studies, regulation can be situated at different levels. Firstly, regulation can be associated to organisational strategies, launched on a central administrative level. Similar to action plans, strategies give birth to subsequent, e-Learning directed programs (Chih-Yang et al. 2011; Yang & Ruan 2007). Secondly, regulation can appear as administrative policies. The launch of policies can emerge as a consequence to a particular barrier, such as a lack of tutors and their competences that needs to be filled over time (Imran et al. 2013, p.602). Thirdly, a normative frame can emerge as a code of conduct. Code of conducts define the way how to learn, what are learning goals and practices appropriate for public employees (cf. Wu & Xu 2011; Yang & Ruan 2007; Barette et al. 2012; Sannia et al. 2009; Yunus & Salim 2008; Conci & Bramati 2007). When addressing the construct regulation it is thus to capture the perceived need for:

- 1: policy guidelines for exchanging knowledge.
- 2: higher institutional regulations.
- 3: code of conducts.

Strength: While almost every study directs attention to framing regulation of e-Learning activities, no direction of influence can be quantified from previous literature. From the initial results in **EAGLE** (D2.2.A., EAGLE Consortium 2015a), the need for particular policies and practices can be supported (requirements nr. 3.1.3.d) as well as guidelines how to use OER (requirements nr. 1.2.a., check Appendix ‘excuse’).

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5.2. Feedback of experts

In the following, the feedback of eleven experts to the cultural factors presented above will be summarized. A general feedback to the topic and work of elaborating a culture contextualization model will be provided. Subsequently, the relevance and selection of cultural factors will be presented.


5.2.1. Feedback of experts interviews (thematic relevance)

E-Learning: For current projects and work related to knowledge management and training of civil services, e-Learning is of high relevance. E-Learning is about to become reality for public employees though it is still rather integrated in reform strategies than in current training activities. **E-Learning is seen as the future for training in the public sector but only under certain conditions:** E-Learning carries the connotation of school contexts and thus of *other* contexts. If e-Learning is not **integrated with familiar training approaches**, (i.e. as a blended approach) the chance to introduce it is low. Furthermore, e-Learning carries the connotation to depersonalize training. It is put into question whether responsibility to lead, to collaborate and to evolve a shared comforting culture can be trained online. To make e-Learning relevant requires activities which allow to **establish or maintain social contacts**. In this spirit, however, e-Learning shall not be associated to leisure time activities, such as surfing and chatting. To make e-Learning relevant requires to **prove the practical relevance** of acquired knowledge for workplace activities and tasks.

Open Knowledge Resources: Within current projects and work (related knowledge management and training of civil services) OER is a familiar but less relevant topic than e-Learning. **Experts express doubt that OER in public administrations are going to be used and seen as OER in other contexts.** That is, for instance, documenting knowledge, decentralized learning, open experience and knowledge, evaluation of colleagues and improvement of errors. The very step to ‘document’ knowledge, translate it into a tangible artefact raises concerns. Documentation has **formal character**; OERs appear to **bind original authors** to the statement and conviction expressed. One expert stated: “Open knowledge resources do not suit as a media type to the culture of public sectors” (participant 1). What are conditions to make OER relevant? The **relevance of OER depends on the workplace; the spectrum of knowledge and tasks to be competent in.** Yet, experts had conflicting ideas whether suitable OERs are already available or not.

Culture: Within e-Learning and exchange of open knowledge resources, the topic culture is present but not of high relevance. Culture is mainly addressed in times of change, it is subject to change and difficult to grasp. For these reasons, culture carries a negative connotation and is not an attractive topic for conversations and management. Culture is seen as the totality of communication, ways of exchanging knowledge and rules framing these activities. To make culture valuable for e-Learning and OER, **constructs need to make influences visible and tangible.** Culture analysis and results are valuable when implications for improvement can be drawn.³ Cultural constructs **need to be applied to**

³ Analytical note: this claim reflects a quite managerial perspective. Following points clarify this assumption.

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everyone instead of addressing intangible groups such as public employees on a national level (participant 7). Furthermore, when conducting **cultural analysis within public administration, public employees need to be involved in this very analysis.** Culture is perceived as a social construction that is important but not necessarily intuitive to understand and manage.

5.2.2. Feedback of experts to basic assumptions

Openness in discourse / Having Free Space (BA1)

Experts judge that the current construct of free space is one of the most essential ones to address basic cultural assumptions. Assumptions concerning the free space to share knowledge, to discuss problems and errors are shared within a department. The assumptions are perceived to be persistent and thus represent an effective measure of progress towards a welcoming e-Learning culture over time. The three subcategories are perceived to be interrelated as a scale, ranking from ‘having general space to take initiative’ towards error discussion. More details are provided in the following.


1: Space to apply knowledge: Experts largely agree that category ‘space to apply knowledge’ is essential to explain why public employees exchange OER. Some experts consider the space as a minimum requirement for involving in the exchange and learning activities. The content validity ratio supports this idea and is sufficiently high (CVR₁: .8; CVR₂ .5; cf. Barette et al. 2012). Following experts, *ceteris paribus*⁴, the basic assumption to enable exchange must be: knowledge can be applied to innovate work. Not only as an assumption, but also as a practical behaviour, this assumption is conceived to have a positive influence on the exchange.

2: Discussion of problems: Experts agree that knowledge about discussions of problems within a department is essential and useful to explain why public employees exchange OER. No expert judges that this assumption is not necessary; however, it is rather useful than essential. The content validity ratio is sufficiently high in general terms (CVR₁: 1; CVR₂: .1). *Ceteris paribus*, ideas and problems must be openly discussed, both with colleagues and superiors. Similar to the first category, experts see a correlation between the actual conduct (behaviour) and the basic assumption how to discuss ideas and problems.

3: Discussion of errors: Experts see the discussion of errors as a core consequence of discussing problems and ideas. Most experts see this category as essential and only one expert judges it as not necessary, given the relatedness to discussion of problems. The quantitative evaluation of this factor reflects this positive evaluation with a high content validity ratio (CVR₁: .8; CVR₂: .5). *Ceteris paribus*, a discussion must address errors and define related consequences.

Summary: Both the qualitative and quantitative evaluations support the relevance of the construct ‘free space’ and its assumptions. The CVRs are very strong, but the strict calculation (CVR₂) indicates that the discussion of problems must be declined as a factor. Following the qualitative analysis, this factor is related to the discussion of errors one which

⁴ Controlled for change of other conditions and influences.

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also has a stronger evaluation. As a result of this analysis, the first assumption (from now BA1.1) and third assumption (from now BA1.2) will be kept and merged with the second one. Overall, it can thus be proposed that:

BA1.1) The basic assumption to have free space to innovate work-practices on behalf of new knowledge as opposed to rule-based work-practices has a positive influence on the exchange of OER.

BA1.2) The basic assumption that open discussions address errors and consequences as opposed to discrete and no discussion has a positive influence on the exchange of OER.

Learning at the workplace (BA2)

Generally, experts judge the current construct of learning style as a main point to trace whether classical assumptions of instructional design prevail or whether change to self-regulatory ideals is achieved. Compared to other factors, the construct is not the main important point. Compared to other factors, however, very positive validity ratios are reached which meet the significance level.


1: Choice of OER: Experts largely agree the choice of OER is an essential factor. It represents assumptions how an OER is chosen given its topic. Related to this, experts perceive that this category as essential to represent how the choice is made in terms of the appropriate person. It represents the departmental hierarchy and roles (who is in the position to structure learning approaches). Experts express that the current basic assumption is, *ceteris paribus*, OERs should be chosen by superiors or experts (wording: it is not accepted that OERs are freely chosen). Positive for the exchange of OER would be in contrast that employees assume and choose OER on their own, given that OER require themselves a self-reflecting approach. The content validity ratio very high (CVR1: 1) and the strict calculation shows that the category meets the significance level (CVR₂: .64).

2: Evaluation concept: Experts agree that assumptions of public employees concerning the evaluation approach are useful and essential. Correspondingly, the general content validity ratio is high (CVR1:1) but the strict calculation is very low (CVR₂: .9) which suggests to decline the category. The reason, why this category is less important than the choice of learning resources, is twofold. On the one hand, some experts criticize that no implications for steering can be derived, neither on base of assumptions nor of factual evaluation results. On the other hand, if open e-Learning is integrated in existing training programs the evaluation approach will be defined, i.e. is not subject to basic assumptions.

Summary: The qualitative and quantitative evaluation suggests that the construct is not appropriate. While the first category is strongly supported, results suggest declining the second category given the negative evaluation. Correspondingly, the results allow proposing that:

BA2.1) The basic assumption to enable the exchange is that the choice of OER is be made by employees and not by superiors.

Format and knowledge concept (BA3)

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Generally, experts judge the current construct of format as rather important. The detailed analysis of judgement allows emphasizing that the factor needs further refinement. On the one hand, a further assumption concerning accommodating diversity (Edmundson 2007a) is associated to the content of OER. On the other hand, the media type used is interpreted as an artefact as opposed to a basic assumption.

1: Format: Experts largely agree that the format of contents to convey knowledge is essential to explain why public employees engage in exchange of open knowledge resources. The content validity ratio is 1 (CVR1:1) and the strict calculation supports that the category meets the significance level (CVR₂: .64). However, knowing assumptions about the appropriate format of contents is meaningful to draw different conclusions. On the one hand, there are different types of learners; some can learn better from theories than from practice. *Ceteris paribus*, all formats need to be provided to accommodate diversity (cf. Edmundson 2007), even if the same learning outcome is achieved. On the other hand, responses reflect epistemological values (cf. Edmundson 2007), and how knowledge can be exchanged. Both elaborations suggest considering to split the first category and facilitate inferences.

2: Media type used: Experts agree that knowledge about the required media type to convey knowledge is useful and essential. Experts doubt that all facets of knowledge can be written down wherefore a range of media types is required to enable an embracing exchange. *Ceteris paribus*, a diverse range of media must be available for an exchange. Experts see the potential to infer implications for learning strategies based on knowing which media type is used. Hence, experts evaluate this category on the level of artefacts instead of assumptions. Furthermore, they relate the results to the format of knowledge. The content validity ratio reflects this elaboration (CVR1:1) but the strict calculation suggests to decline the category (CVR₂: .09).


Summary: The qualitative and quantitative evaluation indicates that the current construct of format and knowledge concept is not appropriate. The results show that the second category is not evaluated on the level of assumptions but tangible artefacts. It needs to be declined as a basic assumption and reconsidered as a tangible artefact. The first category is interpreted in two interrelated ways which enable meaningful inferences. This suggests splitting the category into two facets, namely BA3.1 epistemological and BA3.2 diversity considerations. Based on the results it can be proposed that:

BA3.1) Basic assumptions if to convey knowledge in abstract theoretical structures as opposed to contextualized examples tell about contextualization needs of a given open knowledge resource.

BA3.2) Basic assumptions to accommodate diversity as opposed to restricted range of media formats enable exchange of OER.

5.2.3. Feedback of experts to espoused convictions

Spirit of e-Learning exchange (EC1)

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Generally, the expert evaluation of the construct of e-Learning spirit is ambiguous. While the spirit of a social network is rather not important, the spirit of monitoring exchange activity is seen as highly negative influence. At the same time, experts reflect that both spirits form a continuum. Interestingly, although one underlying category has gained one of the most positive appraisals, most important experts judge the overall construct as rather unimportant compared to others. Further details are provided below.

1: Social contact, networking: Experts generally agree that exchange of learning resources needs to have a social character. *Ceteris paribus*, open knowledge exchange on open e-Learning platforms must be carrying a social character. Public employees need to be informed that the platform is understood in this way. However, it must be clear that social interaction is made for educational means (as opposed to activities in Facebook). The content validity ratio is high (CVR_{1:1}) but the strict calculation is rather moderate (CVR₂: .27).

2: Performance monitoring: Experts strongly agree that exchange on open platforms has to avoid having a monitoring character. Employees' convictions in this respect are essential to explain why public employees engage in the exchange. *Ceteris paribus*, once employees conceive the open platform as a monitoring tool, they are *not* engaging in e-Learning activities anymore. The qualitative evaluation reflects the positive evaluation of this second category. The content validity ratio is high (CVR_{1:1}) and the strict calculation emphasizes that the significance level is met (CVR₂ 64).

Summary: The qualitative and quantitative evaluation suggests keeping both categories given their interrelatedness (and the very strong support of the second category). Based on the results it can be proposed:


EC1.1) Espoused convictions that exchange activities on open e-Learning platforms have a monitoring character as opposed to a social character have a negative influence.

Role and activities

Generally, experts judge the current construct of role and activities of learners as rather unimportant. Based on the detailed analysis of responses, the construct rather appears to be an outcome and decision variable⁵ whether or not public employees are engaging in the exchange of open knowledge resources and thus whether an uptake of OER will take place or not. Further details are provided below.

1: Keen to involve despite problems (i.e. problems in adaptation): Experts judge that espoused convictions about keen or appropriate involvement (despite problems) are essential to explain why public employees enrol in the exchange of open knowledge. They understand this category as an outcome variable that informs about the success of strategies as well as future ones, respectively. Experts see age of public employees is a

⁵ Given the interpretation of first experts, following experts were asked to judge the subcategories as decision criteria: based on the outcome, experts have to decide whether to integrate OER into current training practices.

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conflicting condition, which may reduce the keenness to take part (and serves as a conditional factor). The content validity ratio is moderate (CVR1: .46).

2: Role / type of user: Experts judge this subcategory rather useful than essential. From a managerial perspective, this factor points out which employee superiors have to support; everyone shall become an active public employee. From a pedagogical perspective, this factor points out how to address employees depending on their activity (learning) style and in order to create an inclusive environment to exchange OER. The content validity ratio is moderate (CVR1: .82; CVR₂:.09] respectively what suggests to decline the category.

Summary: Both the qualitative and quantitative evaluations suggest that this construct is not of major importance to explain exchange of OERs. Instead, the first category appears as an outcome variable for experts which enables to draw conclusions of the activities and strategies.

Supervisor support (EC2)


Generally, experts judge the construct of supervisor support as one of the most important factors to explain why public employees exchange OER. The detailed analysis of responses indicates that experts understand the subcategories as different styles of leadership, and both have an impact on the exchange of OER. Moreover, the responses indicate that the relevance of symbolic support may raise depending on the observed hierarchy level (and departmental level, respectively).

1: Active, motivating superior: Experts largely agree that espoused convictions about active support are essential. *Ceteris paribus*, it must be a basic conviction that superiors actively support the exchange of OER. Moreover, the category is not only relevant as an espoused conviction, but also as active behaviour. If no support is provided, according to some experts, superiors shall change the workplace. If the superior cannot actively support the exchange of OER, activity will remain low. The general content validity ratio is high (CVR1:1) and the strict calculation supports (CVR₂: .63) that the category meets the significance level.

2: Symbolic support: Experts are judging that convictions of symbolic support are essential but only to a lesser extent than active support. Also in behavioural terms, symbolic support by superiors is not considered as a sufficient activity. One critical condition is the hierarchical level of the support. If symbolic support is provided on higher institutional levels, it is considered as a major antecedent to engage in the exchange of open knowledge resources. The qualitative evaluation reflects this conditional relevance. While the general validity ratio is high (CVR1: .82), the strict calculation suggests to decline the category (CVR₂: .09).

Summary: The qualitative and quantitative evaluations emphasize this construct as an important factor to explain why exchange of OER is made. While the second category is rather moderately assessed, the qualitative elaboration explains that a conditional factor needs to be included to make it essential. Based on the results it can be proposed that:

EC2.1) Espoused convictions that active support ought to be provided as opposed to no support enable the exchange of OER.

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EC2.2) Depending on the level of superior, espoused convictions that symbolic support ought to be provided as opposed to no symbolic support enable the exchange of OER.

Collaboration partner / Group identification (EC3)

The feedback to convictions of collaboration partners is one of the most surprising ones. Generally, experts judge the current construct of collaboration partner as rather unimportant. The subcategories are associated to numerous conditions, such as the size of the country or the OER topic. At the same time, experts indicate that the current negative evaluation of the factors will shift over time, for example, because the experience with online collaboration and knowledge exchange is low. Further details are provided below.


1: work area / domain: Experts tend to agree that convictions about work domains are essential to make a difference in the choice of collaboration partners. Associated to this knowledge, experts assume that mutual preferences and exchange of ideas can be facilitated within a group. The content validity ratio is high (CVR₁:1) and the strict calculation supports that the significance level is met (CVR₂:.63).

2: work values: Experts do not agree whether assumptions about shared work values are essential for the choice of collaboration partners. Some experts point out that the nature of work values is too high to decide about the relevance of this factor. Last but not least, how to elaborate shared values to decide about similarities or differences during the exchange of open knowledge resources is seen with doubt. The qualitative evaluation reflects the negative evaluation of this second category. The content validity ratio is moderate (CVR₁:.81 and CVR₂:-.09 respectively).

3: sectorial background: Experts have diverging opinions on the role of the sectorial backgrounds. For some, identifying the sectorial background of learners enables to judge about to work values; in this vein, the category is essential. For others, it depends on the topic of collaboration whether the boundary of sectors is an important factor to discriminate between collaboration partners. As a result, experts judge the sectorial background as a subcategory of the work-domain. The quantitative evaluation supports the rather modest evaluation of the factor. The content validity ratio is moderate (CVR₁:.45, CVR₂:-.64).

4: geographical distance: Experts evaluate the category geographical distance as not necessary. Indeed, more experts judge that the category is rather not necessary than essential or useful. Very important in this respect is, however, that experts raise caution to judge about the relevance of this category now because online collaboration is not familiar to the context yet. The quantitative evaluation reflects the negative evaluation of geographical distance. The content validity ratio is low (CVR₁:.09 and CVR₂:-.45 respectively).

Summary: The responses strongly emphasize that the current construct of collaboration partners is not appropriate. The only category which meets the significance level is the work domain. Experts further advise to integrate a differentiation of sectors to this category. Otherwise, results suggest declining factor 2 and 3. Factor 4 raises major interest given the response that geographical distance will become important. Overall, the results propose that:

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EC3.1) Espoused convictions that colleagues in the work domain and sector are collaboration partners as opposed to colleagues in other domains and sector enable exchange.

EC3.2) Espoused convictions that colleagues in geographical close distance are collaboration partners as opposed to colleagues in broader distance enable exchange.

5.2.4. Feedback of experts to artefacts and behaviour

Organizational resources (CA1)


Generally, experts judge that the construct organizational resources represent one of the most important factors to explain why public employees exchange open knowledge resources. However, some modifications need to be made. The detailed analysis has clarified under which conditions the following cultural artefacts are more or less important.

1: Calm physical room: The subcategory a calm (physical) room appears to be less important to explain why public employees exchange open knowledge resources. Whether a calm room is essential depends on the area of work/work domain of individuals. Maybe computer rooms are already separated from work offices. Apart from that, a calm physical room represents assumptions of having time to rest and concentrate on learning. As a result, having a calm room as such is not relevant but rather becomes a proxy for the area of work and calm time. The content validity ratio moderate (CVR1: .64) but the strict calculation suggests to decline the factor (CVR₂:-.27).

2: Internet infrastructures: The subcategory internet infrastructure appears as the major artefact for knowledge exchange. Experts conceive digital technologies and broadband among others as the first and foremost factor that needs to be available for learning means of employees. The qualitative evaluation corresponds with the quantitative evaluation. The content validity ratio high (CVR1:1) in general as well in strict terms (CVR₂:1) and is thus significant.

3: Available knowledge resources: The subcategory available knowledge resources is perceived as an important factor. However, the relevance is bound to the phase of introducing the activity open e-Learning. Overtime, experts consider this factor as not important anymore. Correspondingly, the content validity ratio is moderate (CVR1:.82) in general terms and low (CVR₂:.27) in strict terms what suggests to decline the category.

4: Time to learn: Experts judge that the category time to learn is an invaluable factor. The content validity ratio is moderate (CVR1:.63; CVR₂:.45). However, experts see two inferences can be made. On the one hand, provided time represents the espoused value how relevant learning at the workplace is within a department. On the other hand, which time is spent for learn provides a measure upon which learning strategies can be assessed and adapted. This interpretative flexibility (Pinch & Bijker 1984) calls to tighten the formulation of the factor.

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Summary: The qualitative and quantitative evaluations suggest adapting the construct organizational resources. Firstly, results suggest declining the second and third category.⁶ The fourth category needs to be tightened to avoid interpretative flexibility and strengthen the positive evaluation. The second category received strong support. Based on these results it can be proposed:

CA1.1) Internet infrastructures must be provided sufficiently to enable the exchange of OER.

CA1.2) Time (in factual terms) must be provided sufficiently to exchange OER.

Regulation (CA2)

Generally, experts judge that the current construct of regulation refers to the unimportant factors. However, the detailed analysis outlines that it is not important where the regulation is located (what the construct is reflecting), but *THAT* there is a regulatory frame. Further details are provided below.


1: General guideline: Experts agree overall that a general guideline which provides a normative frame (when, what knowledge to exchange and with whom) is essential and useful on equal terms. A general guideline is particularly essential to get a shared understanding THAT exchanging open knowledge resources is welcome in a department or particular public administration. Following this elaboration, the content validity ratio is 1 and thus very high in general terms, but low in strict terms (CVR₂:.09).

2: Regulation by higher (/central) institutions: Experts have diverging perspectives whether the regulation by higher institutions is essential, useful or not necessary for the exchange of open knowledge resources. One condition that makes higher regulation essential is the level of administrations of respective employees (learners). The lower the administration, the more impact a regulation of higher regulation has. At the same time, experts doubt that unspecific regulations have no visibility at lower levels. The qualitative evaluation reflects the rather negative evaluation. The content validity ratio is moderate (CVR₁:.45 and CVR₂:.09).

3: General code of conduct: Coming to the factor general code of conduct, experts have similar diverging perspectives as on regulation by higher institutions. If a code of conduct exists, it may be extended to the exchange of open knowledge resources. If collaboration activities are central in open platforms, code of conducts gain higher relevance as they are broad enough to touch upon interaction norms. However, they are generally too unspecific and less needed to shape a culturally comforting context to engage in the exchange of open e-Learning platforms. Similarly as higher regulation, the quantitative evaluation of the category three is modest in general terms (CVR₁:.45) and low in strict terms (CVR₂:-.27).

Summary: The qualitative and quantitative evaluations emphasize that the construct regulation is not appropriate so far. The construct is failing to capture the essential factor, namely that a suitable regulation is provided (both to enable and constrain the exchange).

⁶ Why to decline regarding EAGLE: starting material will be provided.

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The validity ratios suggest declining all categories apart from the first one. Following these considerations, it can be proposed that:

CA2.1) Regulatory frames must be provided to guide the exchange of OER as opposed to no regulatory frame.

5.3. Refined model: Open e-Learning culture in public administrations

The previous section has presented results of the expert interviews. Summarizing the main factors, it is assumed that the following constructs and factors shape the exchange of open knowledge resources:

Basic assumptions [BA]

- BA1: Openness in discourse; BA2: Learning at the workplace; BA3: Format for exchange

Espoused convictions [EC]

- EC1: Spirit of open e-Learning platforms ; EC2: Superior support; EC3: Background of collaboration partners;

Cultural Artefacts & behavior [CA]


- CA1: Organizational resources; CA2: Regulatory frames

Based on the feedback of experts, a set of items can be defined to configure a questionnaire. It is presented in the Appendix (see last section).

5.4. Discussion

The discussion section shall serve to anticipate questions given the unique creation of the factors for the EAGLE project. The first paramount question is, **whether the presented model above is actually better** than for example Henderson's multiple culture model or Hofstede (2001). Three points which suggest that this model is more appropriate are: the content of the model for the public sector, the particular suit for EAGLE and feedback of experts. Firstly, it has been discussed in the first chapters, that **culture models used in higher education and public sector context mismatch** (cf. Jamil et al. 2013; Henderson 2007). Not only do studies on culture in the public sector address other values, also the level of analysis (on the country level) does not appear to match needs of administrative culture models (Beuselinck et al. 2007). At the same time, **comparing the final model and previous ones shows similarities**. For example: the learner and teacher role (who is structuring learning activities, who is choosing materials) are integrated within the factor learning style (BA2, see 5.2.2.2.) Hence, combining the similarity with established culture models while being contextualized for the public sector **supports the credibility and plausibility of the model in EAGLE** (Van de Ven 2007; see chapter 4.4.3.)

The second point is the **particular suit of the elaborated cultural factors for EAGLE**. As it has been shown in chapter 5.1., a clear reference to requirements and potential barriers in


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the context of EAGLE participants was drawn. This means that the model addresses points which are meaningful and emerging in the project context⁷. Last but not least, the cultural factors presented above are supported by the expert interviews. At the end of the interview experts were asked whether factors are missing, if the whole model makes sense and how they judge the value of this concept. Focusing on the presented factors, **experts replied that the model is comprehensive and addresses indeed the most salient points**. More than that, they started drawing inferences from the factors, i.e. what conclusions for steering, giving courses and learning activities can be drawn. These will be presented later on. All together, these three points suggest that the model builds upon previous approaches but is refined in a meaningful way for future inquiry of cultural barriers to the contextualization of resources.

The second point to discuss is **whether a unique model as presented above is prone to special risks** such as wordings and misconceptions, given its novelty. Concerns in this respect have to be taken seriously since the model needs to provide timely, adequate information about the project context. Firstly, however, the model is **not developed from scratch** but is based upon previous models as discussed above. It is clear that models including the content of questions and items have to be adapted given that the context varies (Pirkkalainen et al. 2014, section 3.1). It is true that the interdependencies of the factors are hypothetical, however, the proposed influences whether or not public employees engage in exchange activities, **are embedded in previous models and supported by experts review**. Thus, concerns that the model is prone to particular risks are low.

Another point which supports this assumption is the **level of analysis**, a quality criterion for future culture models (Bouckaert 2007; Jamil et al. 2013). The propositions suggest that the analysis is made on base of department and public administrations instead of organization. One can make geographical distinctions, which means that cultural profiles from the participating countries Luxembourg, Ireland, Germany and Montenegro are compared. On the other hand, one can make distinctions on the organisational level within public administrations in (and across) the countries. One may think that making geographic (national) distinctions is an easy approach and that it represents a suitable aggregation level of cultural profiles for the EAGLE platform. Metadata about the country of an employee may be more easily attributed than data about the organization a public employee comes from. However, even if a user (public employee) had to provide this information manually on the EAGLE platform, the effort would be worthwhile. Beuselinck et al. (2007) made a comparison of administrative cultures on the national level and resumes that established cultural models such as Hofstede (2001) may not be granular enough for making comparison across European public administrations. Despite few 'non confirmations', it is generally disputed whether the cultural model of Hofstede (2001), for example, can be generalized to the national level for example (Bouckaert 2007). His results were gathered mainly in organisational contexts (Richter & Adelsberger 2012). Apart from focusing on studies in public administrations, also studies about cultural influences on e-Learning in higher education challenge the assumption of national / regional aggregation (Richter & Adelsberger 2012). While it is commonly suggested to avoid analysing culture on a micro

⁷ The argument is not that only points addressed in the requirements analysis are relevant for the cultural model.


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level, for instance for single teams even the importance of micro-subcultures is acknowledged as important and insightful (Arellano-Gault 2013; Rahman et al. 2013; Schraeder et al. 2005). In this context, the “organizational/departmental” level of analysis can be supported similarly to the quality criterion (3) supported (see chapter 4.4.3.).

Following the discussion of two salient questions, the two last quality criteria for an emerging cultural model are left to be assessed. Indeed, the discussion of the level of analysis already addresses the criteria (3): the model addresses the meso (organizational) level of administrations (Bouckaert 2007, Jamil et al. 2013).

The second quality criterion is (4) the role of political values and artefacts is integrated (Keraudren 1996, Jamil et al. 2013). Related values were essence of bureaucracy and related processes as well as new reform and related managerial principles. The model presented above includes openness in discourse with propositions relating to the work-practices as well as communication norms. Also the role of superior and self-organization is addressed which touches upon new managerial principles such as flexibility and self-responsible work. In this regard, the model can be considered to meet the second quality criterion.

The third quality criterion (5) is whether the model is easy to understand and apply in practice (Tapanes 2011; Pawlowski & Richter 2010). The model will be translated into a self-administered questionnaire. It will be translated into the core languages of EAGLE participating countries and tested with participants. Apart from that, the culture model will be integrated into the contextualization process. Whether the application is easy for non-experts will be evaluated in this context. More about this evaluation is provided in the final discussion (Ch.7).

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6 Contextualization processes

Executive Summary: Building upon contextualization models (Ch.1), the culture contextualization model for EAGLE is presented. It has six steps including a general needs analysis, search and validation of re-usability. Guidelines to accomplish the process are provided subsequently.

6.1 Culture Contextualization in EAGLE


In previous chapters (two and three), a thorough review of studies about culture and contextualization has been presented. This chapter serves to synthesize knowledge and insights from previous studies. The culture contextualization model in EAGLE shall build upon received approaches and develop an easy-to-use approach for users.

The next section synthesizes contextualization models with regard to their conception of steps to take (process of contextualization). Related to that, different contextualization strategies will be outlined. In particular, the goal is to elaborate how each step in contextualization gives reason to decide about a contextualization strategy.

6.1.1 Review of culture contextualization studies concerning steps

Culture contextualization is an on-going process which goes back and forth between creating and adapting open educational resources or learning courses. While some only focus on the adaptation of resources (Richter & Pawlowski 2010) others explicitly mention the need of taking creation into the process in order to facilitate later adaptation work. Since contextualization strategies in almost all studies include the origination of learning resources, the steps how to proceed in contextualization correspond irrespective of the focus on resources. Marinetti and Dunn (2002, p.3) for example, suggest proceeding in five steps: finding and examining the resource and whether adaptation is needed, identify cultural adaptation strategies, isolate core elements, design learning objects and evaluate the evidence. Edmundson (2007) extends the work of Marinetti and Dunn. She suggests six steps which cover: a needs analysis, the analysis of the resource content, scoping of potential adaptation scope, analysis of culture, matching of results and generating an action plan. While these strategies focus on whole courses, Mikroyannidis et al. (2010) extended a generic process based on the lifecycle of (Richter & Pawlowski 2007) to the needs of OER adaptation. The six steps include: a needs analysis, search of OER, validate the re-usability, re-use / adapt, validate solution and re-publish.

Overall, the steps of models presented so far correspond in their essence. First, a general picture of the current and personal context is made. Secondly, a resource is selected and the need for adaptation scoped. Thirdly, if found appropriate adaptation need is more clearly determined and accomplished. After use, fourthly, the solution is evaluated and finally, shared to the broader community. It can thus be assumed that common steps follow:

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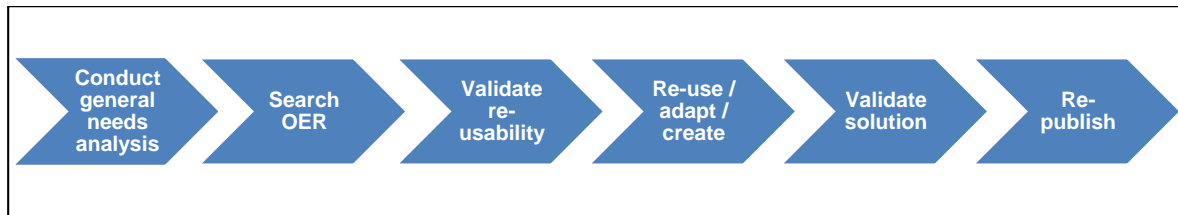


FIGURE 8: CONTEXTUALIZATION PROCESS IN EAGLE

These steps will be taken as a rough guideline for the contextualization model in EAGLE. The depth of details, what to do in each step, varies across studies. While Edmundson provides an example, Mikroyannidis et al.(2010) provide overall process categories such as checking the “licensing”, or “evaluation of the content”. What the strategies share, at the same time, is to conclude with similar contextualization strategies including translation, localization, modularization, origination. The description of strategies, related activities and which conditions need to be present are described below.

6.1.2 **Review of culture contextualization studies concerning strategies and activities**


Translation

Authors suggest translating educational resources and courses if the content provides simple information, general knowledge, or short structured news. If examples are provided, they tend to show product knowledge or company procedures. The content to learn is technical background, simple knowledge and concepts. Pedagogical strategy chosen is instructivist or objectivist paradigm (Dunn & Marinetti 2002; Tapanes 2011). In other words, if learners categorize a resource under these terms, the content in terms of idioms, basic expressions and language may be translated (Edmundson 2007, p.276)

In essence, translation of OER is the contextualization strategy of choice if low need for changes is apparent. The content and knowledge of an OER can just be easily read and understood. The content accommodates large variances of user backgrounds which means that an example, a set of guidelines or a scenario is defined on a general bases and thus fulfils several needs.

Localization

Authors suggest localization of educational resources if the content demands learning cognitive, hard skills, and simple concepts. If examples are shown they tend to illustrate the application of software and serve for most e-skilling. The variation of instructional paradigms is minimal. What is conveyed with contents is netiquette, including soft multiculturalism (Henderson 1996) include slang, humour, gestures, units of measures, law, taboos, etiquette and so forth (Edmundson 2007). Learning may be disrupted by unfamiliar learner roles, new cultural customs like the lack of shaking hands, gestures and touches during learning activities (Henderson 2007; Edmundson 2007, p.277). Media for resources are audio conferencing, satellite broadcasts, presentation of examples and practice exercises (Tapanes 2011).

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In essence, localization is the advised strategy for contextualization if a higher need for changes of an educational resource is apparent. Large parts of the contents, for example, refer to specified needs. Hence, the overall resource requires re-formulation and adaptation of more than just the language and terminology.

Modularization

Authors suggest modularization of educational resources if the contents demand learning soft skills, require knowledge of regulatory financial information, business strategy and business skills. If examples are shown, they may cover project management, presentation skills and marketing strategy. The resource is shaped by different instructional strategies, may be used in the preferred order of learners and covers alternative media and. Examples include threaded discussion, chats, online communication and presentation and thus a higher accommodate diversity (Tapanes 2011)


In essence, modularization is the advised contextualization strategy if, similar to localization, the content provides specific examples, information and knowledge that needs to be changed. Unlike localization, however, the sections needing adaptation can be found in a few specific parts. Not the overall resource requires re-formulation; modularization means that an educational resource is extended or altered only in some respects.

Origination (creating new knowledge resources)


Authors suggest originating large parts of or a whole educational resource if they convey mostly softer skills, attitudes, beliefs, as well as complex management skills. Examples provided tend to cover negotiation, motivation, teamwork, and conflict resolution. The skills needed for these examples are “unique per culture” (Dunn & Marinetti 2002, p.4) and thus “require alternative course architecture” (Dunn & Marinetti 2002, p.4). The respective educational resource may further be identified by unfocused goals, high context communication and constructivist-cognitive pedagogy (Tapanes 2011).

In essence, origination is the advised contextualization strategy if the contents require a time-extensive and specific elaboration. Only a specific aspect and related question is addressed, a solution is presented on based of available resources for the author. These context specific information raise the boundary for generalizing the educational resource across general cases and contexts. Thus, learners may gain inspiration but are advised to create an own educational resource to improve the meaning of the solution. .

Based on the strategies translation, localization, modularization and origination, general types of adaptation needs and responses are defined. But which steps are to take for contextualizing resources in real life? What activities are related to them? The following table provides a detailed overview to answer this question.


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Strategy	Activities	Description	Tools	Relation to culture profile
Translate	Versioning	Implementing specific changes to update the resource	Basic editing tool, versioning functions.	Personal cultural profile and OER contents correspond. No great need for adaptation.
	Translating	Restating content, idioms and expressions from one language into another language	Translation tool, vocabulary tool	Personal and OER language diverge. Due to distinct geography or domain of learner and author, terminologies diverge. Adaptation is needed in this respect.
Localize	Re-authoring content	Transforming the content by adding your own interpretation, reflection, practice or knowledge	Basic editing tool, mind-map, personal notes, reflection tools, notations	Personal interest in the learning tasks or interpretation of contents of an OER mismatch. The topic is suitable. Adaptation of the content by help of own creative means helps to localize.
	Re-authoring structure	Adapt structure, format, or layout of the resource	Basic editing tool, format converter, note book	Personal cultural assumptions about structure, need for interaction of learners , for example, mismatches. The format of an OER mismatches cultural / personal profiles and needs to be converted.
	Re-illustrating	Changing content or adding new factual information in order to assign meaning, make sense through examples and scenarios	Basic editing tool, multi-media tool for integration, mind-map, note book	The topic of OER is fine but does not match personal needs in all details, for example, to make local managerial problems clear to employees; experienced problems or constraining laws might have to be illustrated.
	Personalizing	Aggregating tools to match individual preference, context and performance	Tool for integration, format changer, link checker	The formats for exchange are mismatching. Perceived lack of essential resources need to be added to accommodate preferences.
	Discussing	Discussing with peers or superior to settle a meaning of the content	Recommendation / communication tools, discussion tools,	OER requires to discuss errors, problems, group feedback or else. This may mismatch personal assumptions about openness in discourse and role of superior support. Contents may have to be altered and adjusted in this respect.
	Summarizing	Reducing the content by	Basic editing tool, mind-	The topic matches but the way of presenting it is too

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Modularize		selecting the essential ideas	map	time extensive , does not hit the core. Hence, parts of the content have to be reduced.
	Repurposing	Reusing for a different purpose or alter metadata, tasks and abstract to make more suited for different learning goals or outcome	Metadata editor, basic editing tool, defines the structure of usage (modules).	The topic is fine but the means like collaborating, testing and case-based learning is not met (mismatch of learning at the workplace and OER structure).
	Re-sequencing	Changing the order or sequence	Copy paste tool, page viewer, format converter	Parts of the OER mismatch individual needs.
	Decomposing	Separating content in different sections, break content down into parts	Page viewer, format converter, copy paste tool.	Superior support and learning at the workplace allows only parts of the resource to be acquired. Correspondingly, parts are accommodated for this local means.
Originate	Remixing	Connecting the content with new media, interactive interfaces or different components.	Content integration tool, page viewer, format converter, copy paste tool.	Some suitable OER are found, but they mismatch in apart from the topic in numerous respect (learning goals, tasks, terminology, formats). They best parts are picked and re-used.
	Assembling	Integrating the content with other content in order to develop a module or new unit	Copy paste tool, content integration tool, page viewer, format converter	Part of an OER are suitable for illustrating a case or task in a new OER. Language suits well, terminology is fine but the whole OER is has the wrong topic.
	Redesigning	Converting contents from one form to another, presenting pre-existing content into a different delivery format.	Content integration tool, page viewer, format converter, licensing, metadata.	Code of conducts prescribes certain formats and styles to be used, such as accessible audio formats, layout and security requirements. Resources are converted and licenses accordingly to match individual needs.
	Developing anew	Developing your own OER, taking reference to existing ones	Editing tool, multimedia tools, content integration	Personal cultural profile and OER contents do not correspond at all.

TABLE 2: CONTEXTUALIZATION ACTIVITIES (ADAPTED FROM OKADA ET AL. 2010)


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So far, contextualization strategies and related activities have been presented. Also potential tools and relation to the culture profile have been outlined in the Table 2. However, how to decide to take one or the other strategy needs to be further described.

Reviewing the studies, authors tend to match the cultural tendencies with those conveyed by the respective OER (cf. Edmundson 2007). Hence, it is tested whether cultural dimensions from the general needs analysis match with dimensions expressed in the content and design of the learning resources. Generally, this process can be taken over for contextualization in EAGLE because the culture model illustrates by help of contrasting dimensions whether or not a learner agrees to a cultural assumption.

Yet, previous studies raised caution, that contextualization levels may overlap (Edmundson 2007). Empirical evidence to support the mapping of culture dimensions to either one or the other strategy needs to be gathered (Tapanes 2011). There is furthermore a trade-off between analysing the contextualization need of OER and using the resource. In other words, the need to skim the OER content to finalize contextualization steps should not disrupt learning and exchange activities since public employees are interested in the content and its meaningful use as such (instead of being interested in becoming experts in analysing textual contents).

Following these considerations, deciding for either one or the other contextualization strategy requires further testing. Nevertheless, arguments to support the mapping as is will be provided in the Section 7.2. (discussion)

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7 Guidance model

In the following, a guidance model for culture contextualization is provided. Apart from a description of steps, how final EAGLE users may navigate through the process is illustrated.

7.1. Overview of steps for culture contextualization process

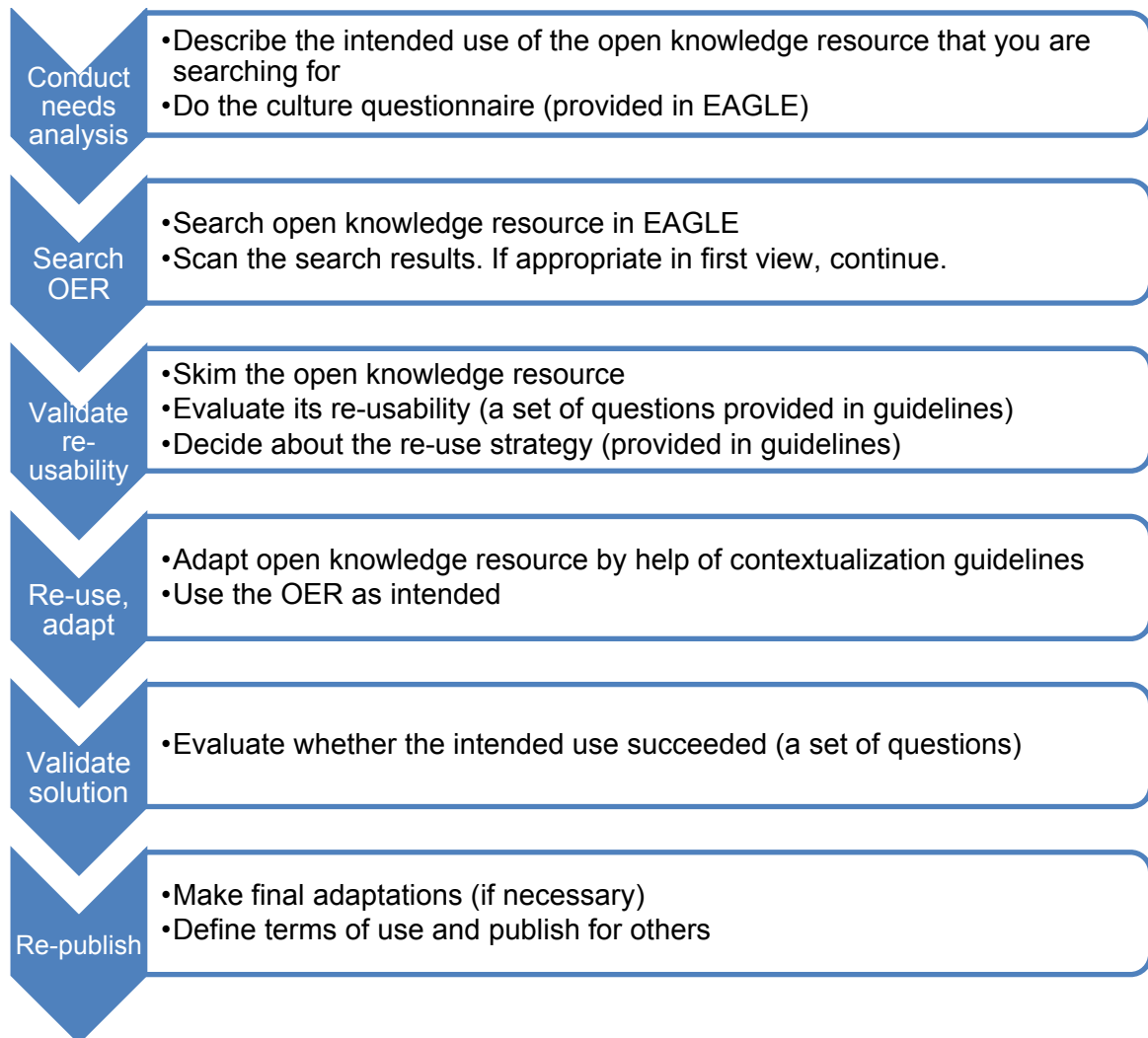



FIGURE 9: CONTEXTUALIZATION PROCESSES AND GUIDANCE

To facilitate understanding, the process is described in more detail. The description is formulated to suit the interest of learners; hence, to inform and guide learners through a culture contextualization process. To anticipate one important question: the whole process does NOT have to be iterated each time re-using an open knowledge resource. It is part of OER literacy skills to be able to judge which cultural factors and OER features may have to be adapted and how. Public employees will develop skills enabling them to qualify without guidelines (intuitively) how to proceed. The following guidelines are guiding through the whole process. In D7.2., contextualization tools, particular guidelines for specific steps will be defined.

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7.2. Guidelines for learners: Culture contextualization

7.2.1. Conduct a needs analysis

The needs analysis is the first step in a contextualization process. On behalf of several questions, you specify the main goals to reflect upon for your learning experience; you decide which OER you might want to use and how to adapt it. Later on, these notes will help you to evaluate whether the adaptation was useful.

A) Describe the intended use of the OER which you are searching.

1: What is the topic that you are searching for?

Example notes: *I am searching for a resource which is telling me about administration processes of marriage, marriage of people living in different countries. Also divorce of cross-national marriages is of my interest.*

2: What parts of the topic should an OER present?

Example notes: *I need to know what are the first steps of administration; which laws do apply; whether there is a main institution; who is expert- basically, everything to get started.*

3: What information / knowledge do you want to have acquired in the end?

Example notes: *I want to have a personal set of notes which answer my questions, such as contact persons, laws, etc.*

B) Do the cultural profile (answer the questionnaire)

1: Answer the questions in the culture questionnaire.


See questionnaire in the Appendix. In the future, there will be a link to administer the culture questionnaire online.

2: Save your profile.

Keep your culture profile opened for the following steps. It may look like Table 3 below. The factor stands for categories like openness in discourse. An “X” in Yes or No tells, whether you generally agree or disagree with the presented statements in the questionnaire. The column “what does this tell me” explains, what the agreement or disagreement to a factor means:

TABLE 3: CULTURAL PROFILE - OVERVIEW

Factor	Yes	No	What does this tell me
1 Openness	X		You tend to assume that public employees must have a free space to innovate work
2 Error discussion	X		You tend to assume that public employees must have discussions must be open
3 Learning		X	You tend to assume that public employees must have a

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at work			free choice of OER
4	X		You tend to prefer abstract, theoretical learning structures
5	X		You tend to assume that diversity must be accommodated
6		X	You tend to assume that online actions are monitored
7		X	You tend to reject that active support is needed
8		X	You tend to reject that higher level support is needed
9	X		You tend to be open regarding other domains
10	X		You tend to be open regarding other locales
11	X		Infrastructure appears to be sufficient at the workplace
12		X	Time to complete learning with OER must be scheduled with other colleagues or superiors
13		X	Your interest in regulated online OER activities is low.

7.2.2. Search open knowledge resources ⁸

The step “search open knowledge resource” is the second step in a contextualization process as long as you do not already have a resource you want to use. If you have a resource, you can skip the second step and continue with the step “validate re-usability”.

A) Search the EAGLE portal for Open Knowledge Resources

1: Search OER


You can search OER on EAGLE in two ways: Either you use the “search” function or open the button “topics” to navigate through potential fields of your interest. Depending on your interest, you can find further guidance how to use this portal function on EAGLE.

B) Scan the results check whether the topic seems to suit your interest

1: Scan the results

Scanning the results means that you check whether the OER that you have found are matching the intended use (noted in the first step). For example, does the topic match your interest? Do you have hints that points of your interest are addressed, such as laws, institutions, processes, and so forth?

⁸ Searching and evaluating results is a high competency claim orienting on the EAGLE Construct Map (D4.1. p. 51). Guidance for users how to develop this skill is developed collaboratively between work-packages.

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2: Evaluate how to go on

Depending on your first impression, you may continue or re-do the search. Take time to re-do the search if needed. If your search did not provide any results, you may try out alternative search terms. Decide which OER to take and open the file. In the future, there will be guidance which tools assist in opening diverse media formats.

7.2.3. Validate re-usability

The third step “validate re-usability” requires that you have a resource which you want to use or which you want to evaluate concerning its re-usability as a learning resource. This step guides you through evaluating whether and how to adapt the open educational resource. Therefore, we provide you with a guideline to briefly assess the open knowledge resource.

A) Skim over the OER

1) Skim the OER

Skim the OER means that you do not only read the title, author, date and keywords. You are opening the OER by clicking on the text or content. Then you naturally read the first sentences; the chapter sections (if provided) and the results section or listen to introductory minutes of audio or video resources. You go over the text and see whether your impression (that your topics of concern are addressed) is supported.

2) Evaluate how to go on

If you find that this OER does not at all address your interest, you have to go back and open the second best OER which you have found. If you find that this OER may address some points of your concern, but does not match perfectly, go ahead with the guidelines described below.


B) Evaluate the re-usability

1) Evaluate Re-usability

You have skimmed the OER and have an impression what information and contents are provided. Apart from the contents, the following questions will help you to check what kind of adaptation is needed to make the most of your learning experience. Answer the following questions:

TABLE 4: SET OF QUESTIONS TO EVALUATE RE-USABILITY OF OER

Question	If you would use this resource:	Yes	No
1	Does it suggest processes or steps which would require you to shift your work routine?	X	
2	Does it seem that you have to discuss some errors with colleagues, authors or anyone else?		X
3	Does it seem that you have to ask dedicated personnel (experts, superior, and instructor) whether this resource is appropriate for your learning goals?		X
4	Does it provide you with theoretical concepts only?	X	
5	Is it based on one kind of media?	X	
6	Does it seem that the use of this OER is monitored by dedicated personnel?		X

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7	Does it seem that you require support from superiors levels to actually use the resource?		X
8	Does it seem that you require support from higher levels to actually use the resource?	X	
9	Would you read about other work domains?	X	
10	Would you have to read about issues of departments in broader distance?		X
11	Could you use it with the technical infrastructure at hand?		X
12	Would you have to complete reading in a predetermined time?	X	
13	Would you have to check whether the use conflicts with code of conducts for use?	X	

These questions summarize characteristics of the resource. Generally, people have often pre-defined assumptions about the questions asked. In this respect, we have asked you to conduct the cultural profile in the beginning. You need your profile now to see whether contents / characteristics of the learning resources that you want to use and your preferences tend to correspond. Thus, we are asking you in the next step to check whether the yes / no profile for the resource above meets your yes/no profile from step one.


C) Check whether the resource profile matches your cultural profile

1) Compare profiles

Put the yes / no profile of the resource with your profile side by side. The Table 5 provides an illustration. Factor stands again for the cultural factor, just presented as a number instead of a term. Your profile and yes/no stands for your response profile based on the cultural questionnaire. OER profile and yes/no stands for the characteristics that you elaborated for the learning resource at hand. Now you can compare whether your and the OER profile correspond. You can check by counting or summarizing briefly:

TABLE 5: MATCHING PROFILES

Factor	Your Profile		OER profile		Nr of (mis) matchess
	Yes	No	Yes	No	
1	X		X		
2	X			X	Mismatch: I have to check this
3		X		X	
4	X		X		
5	X		X		
6		X		X	
7		X		X	
8		X	X		Mismatch: I have to check this
9	X		X		
10	X			X	Mismatch: I have to check this

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11	X			X	Mismatch: I have to check this
12		X	X		Mismatch: I have to check this
13		X	X		Mismatch: I have to check this


The comparison outlined six mismatches. This means that your fundamental assumptions important for improved learning experiences are not corresponding about some characteristics of the learning resources. First of all, this **does not mean that you may NOT use** the resource. Also, it **does not mean that you have to adapt every respective point**. Instead, we will recommend several strategies, depending on your time, which help you to overcome the mismatches and improve your learning experience. First of all, check which adaptation strategy we are suggesting.

2) Check suggested adaptation strategies.

Use the following table like this: Check whether the OER suggests yes or no. Choose the respective column. Then see what your profile tells for a particular factor. Based on that, you may find the suggested strategy. Tip: The mismatches of the personal and OER profile in Table 5 are highlighted in yellow

TABLE 6: MATCHING PROFILES, SELECTING CONTEXTUALIZATION STRATEGY

factor	Your profile	OER profile indicates:	
		yes...	no...
1	Yes	Versioning	Yes Re-authoring content, re-illustrating, re-mix
	No	Localize, re-author, re-illustrate	No Versioning, personalizing
2	Yes	Versioning, discussing	Yes Discussing, illustrating, re-mixing, re-authoring content and structure
	No	Remix, personalize, repurpose	No Versioning, Personalizing
3	Yes	Discussing	Yes Discussing, summarizing, personalizing
	No	Discussing	No Discussing, Remixing
4	Yes	Versioning	Yes Re-authoring content, personalize, repurposing, assembling
	No	Modularize, remix, assemble, re-authoring	No Re-authoring, Translating
5	Yes	Versioning	Yes Personalize, re-design, remix
	No	Re-authoring structure, decompose, assemble, redesign	No Remix
6	Yes	Discussing	Yes Discussing, assembling,
	No	Discussing, re-design	No Discussing, remixing
7	Yes	Discussing	Yes Discussing, summarizing
	No	Discussing, versioning, re-authoring content	No Personalizing, re-authoring
8	Yes	Discussing, re-authoring	Yes Discussing, summarizing
	No	Discussing, versioning, re-	No Personalizing, re-authoring content

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		authoring content		
9	Yes	Translate, re-author, re-illustrate, personalize	Yes	Personalize, re-illustrate, re-mix, repurpose
	No	Translate, personalize, illustrate, re-authoring content	No	Translating, versioning, re-authoring
10	Yes	Translate, re-author, re-illustrate, personalize	Yes	Personalizing, re-illustrate, re-mix, repurpose
	No	Translate, personalize, illustrate, re-author content	No	Translate
11	Yes	Versioning, Modularize	Yes	Re-design, decompose, summarize, develop anew
	No	Re-design, re-sequencing, decomposing,	No	Remix, assemble, redesign, decompose
12	Yes	Timing, personalizing, Modularizing	Yes	Timing, discussing, personalize
	No	Timing, discussing, decomposing, remixing	No	Personalize, timing, discussing
13	Yes	Re-illustrate, modularize, originate	Yes	Re-illustrate, reauthoring structure, repurpose
	No	Discussing, summarizing	No	Versioning

The presented strategies provide you with hints how to adapt the resource. Guidelines for using particular tools for these strategies will be provided in D6.8.

7.2.4. Validate solution

The step “validate solution” is the first step *after* you have re-used for the actual learning part; for using the resource as intended. We basically encourage you to reflect, whether your adaptation (of terms, learning activities and so forth) was successful.

1) Validate adaptation

Validate the changes that you have made or that you have not made given time limitations by asking:

1: Did the OER answer my initial questions?


2: Did I manage to adapt important aspects that improved my understanding?

You may save these experiences in your profile. They help you to document and reflect upon your learning experience in EAGLE.

7.2.5. Re-publish

The step “re-publish” is the last step after you have re-used for the actual learning part; for using the resource as intended. We basically encourage you to upload the new version of your OER in EAGLE, if this was not already the case.

1) Upload and save in EAGLE

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You can upload resources in the section MyResources.

2) Adapt metadata

Metadata are data and information about the content and type of OER at hand. They help you to figure out keywords and get an overview during the adaptation processes. Hence, without providing others information about the changes and information of the OER at hand, you as well as others will have difficulties to evaluate it as demanded in step nr. 2 and nr.3.

So far, guidelines through the EAGLE culture contextualization process have been presented. The practical and empirical reliability remains to be discussed in the next section.


7.3. Discussion of the guidance model

The discussion of the guidance model will address the core questions whether empirical support can be provided for the appropriateness of matching culture criteria and adaptation strategies as well as ease of use regarding the overall model.

Firstly, the models and guidelines are generic and (their use) may differ from context to context. Depending on situation and organization at hand, they need to be embedded and refined with regard to local requirements. Despite this caution, general, empirical support for the appropriateness of the culture contextualization model in EAGLE can be gathered by previous studies. Since the model is building upon previous studies and strategies, one can infer that **the match of culture criteria and strategies is appropriate**. For example, Edmundson (2007) suggests localizing if idioms, learning strategy and structure of the learning resource are mismatching learner's critical culture values. Also in this model, strategies concerning the translation of idioms (translating), change of strategy (re-authoring content) and structure (re-authoring structure) are suggested. This level of detail shows that the model in EAGLE goes beyond previous studies and gives particular guidance what (adaptation activities) to do with the OER.

One could question whether criteria developed in EAGLE are really allowing to infer a particular strategy to be appropriate. For example, how we can support that basic assumptions concerning openness in discourse are telling to discuss or re-design a particular OER? Firstly, the relation of openness in communication can again be supported by previous models. Tapanes (2011) associates greater openness (Hofstede 2001) with a less structured teacher role. While support can be found in practices, communication behaviour at the workplace and in training is important for the learning experience in theory as well (Edmundson 2007). Also from other conceptual lenses such as organizational learning in public administrations, the value of openness in discourse (Barette et al. 2012) can be supported.

These examples illustrate the relevance of one factor only (openness in discourse). To see how factors relate to previous models please refer to the discussion of the cultural model (Ch. 5.4.). Above and beyond, support from expert interviews can be provided. When experts elaborated on the relevance of the factors, they outlined what they would infer from

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the resulting outcomes. For example, one participant inferred from accommodation of diversity as well as learning style which kind of media format and structure would be appropriate. Another expert mentioned with regard to the factor superior support: “These responses show whether old, manifested learning assumptions are settled or whether they are ready for self-regulated OER learning” (participant 9). Overall, this suggests that criteria are meaningful for experts in the field and allow inferences how to deal with OER and re-use strategies in practice.


Another critical point to discuss is the question whether model presented above is easy to use? Are the steps taking learners too long? Does the model negatively affect the learning experience; i.e. are efforts too high? Firstly, the full contextualization process does not have to be repeated fully for each resource. Once a learner has completed his culture profile, he may jump to assess an OER (step 4) immediately and compare what aspects are mismatching. Furthermore, there will be a learning effect, so learners get familiar with the check of OERs and comparison of personal profiles. They may not need to check with the adaption guidelines anymore but only which strategies are appropriate for a mismatching learning style or media format. Hence, the answer is that the full contextualization process will take a few minutes the first time, but the time and familiarity will grow and so the time will decrease to complete adaptation in the end. Secondly, together with suggested strategies an indicator for how much time is needed is provided. Thus, learners can scope what they have to expect and chose the most appropriate adaptation strategy for their current situation. Thirdly, the model will be tested with future users. Whether questions are intelligible; the matching is clear, how much time is needed and whether learning effects can be assumed, are questions to discuss in focus groups evaluations. The schedule for focus groups is already discussed within the EAGLE team and will be planned with the EAGLE participants in January / February 2016.

Results will be provided as an amendment to this deliverable, or included in the deliverable D7.3. concerning best practices.

7.4. Implications for other work-packages

The deliverable has outlined several references to other work-packages in the EAGLE project. To clarify on the next steps and scale the learning effect within the project, a summary is provided in the following.

- WP3: Update the Change Management Strategy regarding contextualization guidelines.
- WP4: Synthesize learning style (paradigms) and develop common user guidelines (for the adaptation and creation of culture sensitive OER).
- WP5: Check the choice of metadata, use cases for contextualization of OER, and adaptivity of the system.
- WP7: Include results of user feedback in future deliverables.
- WP8: Schedule focus groups to validate the culture contextualization model in the future.

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8 Conclusion

The deliverable has presented cultural factors for the public sector, contextualization processes and the resulting cultural contextualization model for EAGLE. The development of the model has included presenting the cultural criteria to experts who validated the approach. Based on the feedback also inferences regarding the contextualization steps were gathered.

The discussion has outlined critical questions whether the appropriateness of the model (regarding criteria, match of criteria and adaptation strategies and ease of use) can be supported. The culture contextualization model in EAGLE builds upon previous models wherefore previous experiences can be referenced to support the current model. Also inferences of experts have been provided which support the link of strategies and culture criteria. Not at last, plans to test the final model with EAGLE users are launched so apart from previous studies and expert interviews, further empirical support for the appropriateness of the model can be provided.

Future evidence about the uniqueness and performance of the model will be provided in future deliverables. Implications for work-packages are outlined to scale the learning effect within the EAGLE project and discussions have started.

We hope you enjoyed reading. We will provide more details regarding the factors, expert validation and analysis matrices in the Appendix.

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Appendix

Analytical matrix for the literature review

The matrix covers in columns:

- A description of the study: role of culture and learning in the paper
- Summary of the context of analysis (level: supra-/national level, regional, organization/job, institution, department, subculture, individual level)
- Summary of culture factors (including values, dominant symbols, norms, formal routines / artefacts, informal routines / artefacts; attitudes).

Expert validation

Conduct of structured interview

The model evaluation follows a mixed-method content validation according to Lawshe (1975) and McKenzie et al. (1999). It is applied and established in the domain (cf. Barette et al. 2012). Firstly, experts were asked about the relevance of the topics e-Learning, use of open knowledge resources, and culture respectively. Secondly, a set of nine factors was presented and experts were asked, how important the factors are to explain why public employees exchange open knowledge resources. Together with rating the factors, experts explained conditions, elaborated on experiences and related antecedents to change of critical factors.

Calculation of the CVR


Calculating the CVR follows McKenzie et al. (1999) and Barette et al. (2012).

$$\text{CVR1: } x = \frac{n_e - N/2}{N/2}$$

Where CVR1: content validity ratio; n_e = nr of experts indicating essential or useful and N= total nr of experts

$$\text{CVR2: } x = \frac{n_e - N/2}{N/2}$$

Where CVR2: strict content validity ratio; n_e = nr of experts indicating essential and N= total nr of experts.

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Theoretical background of the factor model


Details on factors

Openness in discourse / Free space to apply knowledge

Theoretical underpinnings	<p>Premise: Using OER requires learners to be open about their knowledge; document their knowledge and open it via OER for the use of others. Respectively, others engage with this OER, discuss and provide feedback to its content. If errors are found, they need to be addressed and improved. If users are familiar with discussing errors, improvements and giving feedback in general and related activities, provide grounds for OER exchange in similar vein. (cf. Rosenberg 2001; Pirkkalainen & Pawlowski 2010).</p>
Studies addressing the factor	<p>Hedvicakova 2013; Gustavsson 2009; Salminen & Mäntysalo 2013; Imran et al. 2013; Caron & Giauque 2006; Rahman et al. 2013; Wu & Xu 2011; Yao et al. 2007; Amayah 2013. Eidson (2009, pp.42-50) provides no statistical but a descriptive analysis of goal conflicts between work activities and professional goals to e-learning goals and tasks. Barette et al. (2012) include in the cluster organizational learning culture building upon items which ask about the openness of change, innovation, sharing experiences, experimental attitude, and perception of changes as opportunity. These items reflect the core of the construct.</p>
Contextualization EAGLE D2.2.A	<p>It was indicated that learning needs to be immediately applicable to work. Only then it was accepted. This learning paradigm was shared and may express the value of learning in administrative culture. The formulation of the question relates to a workshop in the EAGLE project. Participants disagreed whether a close municipality may be asked for help once a new reform was launched. Would it show that the asking municipality is behind and lacks knowledge? The same applies to individuals (Section Excuse D2.2.A.).</p>

Learning Style

Theoretical underpinnings	<p>Premise: The theoretical premise why the construct learning style is important: one ideal of OER contextualization is that the learning resource is freely available to a diverse range of learners. OER uses are related to self-autonomous learning pedagogies, so learners will have to structure their learning approach and evaluation on their own sometimes. If learners have diverging basic assumptions, they may be surprised when engaging with the learning resources; they may need some guidance to get familiar with alternative learning convictions and approaches. Tapanes (2011) operationalizes Edmundson (2007) and Henderson (1996). Accommodation of diversified needs and differences could be one way to test whether equality towards service holds as a value for learning as well. Formulated this way also cognitive background diversification is included (Edmundson 2007).</p>
Studies addressing the	<p>Tapanes 2011; Eidson 2009; Gustavsson 2009; Hedvicakova 2013, Bimrose et al. 2014, 2014, Yang & Ruan 2007.</p>

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factor	
Contextualization EAGLE D2.2.A	EAGLE: it was disputed which contents may be suitable for learning, what OER are and formats are needed. There was strong demand for separating the levels, so according to job profile and hierarchy levels EAGLE participants tend to like learning alone or with people on the same level (Section Excuse D2.2.A.).

Knowledge conception

Theoretical underpinnings	Premise: The theoretical premise why the construct is important: To contextualize OER means to adapt the content or format among other aspects of the learning resource. Depending on the assumptions of suitable formats and media, guidance how to adapt OER can be provided.
Studies addressing the factor	Compare Schraeder et al. 2005; Gustavsson 2009; Sannia et al. 2009; Eidson 2009; Langford & Seaborne 2003; Schraeder et al. 2005; Yao et al. 2007; Hedvicakova 2013. Tapanes (2011) operationalizes Edmundson 2007 (and Henderson 1996). Accommodation of diversified needs and differences could be one way to test whether equality towards service holds as a value for learning as well. Formulated this way also cognitive background diversification is included (Edmundson 2007).
Contextualization EAGLE D2.2.A	Demands regarding the content, media format and structure of the resource are clarified in requirements nr 3.1.4 as well as 3.2.1. (Section Excuse D2.2.A.). There is a lack of digital facilities in some countries. Therefore the OER format must be suitable for learners in different administrations.

Group identification

Theoretical underpinnings	Premise: The premise why this factor is important is that the use of OER is a collaborative activity. Taking and adapting OER is a way of asynchronous collaboration. Also OERs can be created during online meetings (a synchronous collaborative activity). Depending on the available collaboration partners, collaboration may more or less take up.
Studies addressing the factor	Gustavsson 2009; Imran et al. 2013; Marschollek & Beck 2012; Rahman et al. 2013; Greiling & Halachmi 2013; Moynihan & Landuyt 2009; Kalantari 2005.
Contextualization EAGLE D2.2.A	There is a need that learning is accepted in-between administrative groups; there is a preference for social-interactive learning where groups can sustain or are newly developed (requirements nr. 2.4.; Section Excuse D2.2.A.).

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Spirit of technology


Theoretical underpinnings	Premise: The theoretical premise which makes the construct relevant is: that spirit is a representation of "... values and goals (that) presents to people ... how to act when using the system, how to interpret its features and how to fill in gaps in procedure which are not explicitly specified" (DeSanctis & Poole, 1994, p. 126). The spirit shapes behavior how to exchange open knowledge resources online.
Studies addressing the factor	Yang & Ruan 2007; Chih-Yang et al. 2011; Chen 2014; Eidson 2009.
Contextualization EAGLE D2.2.A	The role of social interactions was highlighted very often. Personal exchange and getting to know someone more personally is one attracting feature for f2f learning. It raises concerns whether these contacts may be established, maintained online (Section Excuse D2.2.A.).

Organisational resources

Theoretical underpinnings	Premise: Organizational resources are shaping the learning experience and are re-produced during the process (principle of duality, DeSanctis & Poole 1994). This includes regulation, licenses and norms like code of conducts (cf. DeSanctis & Poole 1994). Media and digital resources to avail of digital learning resources are critical to involve in the use of OER (Edmundson 2007).
Studies addressing the factor	Chen 2014; Eidson 2009; Barette et al. 2012; Moynihan & Landuyt 2009.
Contextualization EAGLE D2.2.A	Time and encouragement to take the time was one result of the EAGLE barrier assessment. Hence, not only factual time to sit down but acceptance to do so is needed to try out the EAGLE platform.

Regulation

Theoretical underpinnings	Premise: While literature on OER does not measure the level of regulation on the uses, regulated use depending on licenses is a major issue. Digital knowledge resources do not gain their status unless a dedicated rule (license) is defined under which terms the knowledge resource can be (re-)used. Regulation is therefore essential to characterize a cultural suitable environment for the exchange of OER.
Studies addressing the factor	Greiling & Halachmi 2013; Wu & Xu 2011; Yang & Ruan 2007; Imran et al. 2013; Barette et al. 2012.
Contextualization EAGLE D2.2.A	The role of systematic training was outlined as well. To spend time to advance knowledge the outcome needs to be proper. Efforts and existing programs need to be streamlined; a short shut is not needed.

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Roles and activities of learners

Theoretical underpinnings	Premise: It is assumed that learners who adapt OER may face difficulties in the beginning, such as what to adapt, how to adapt and so forth. Being unfamiliar with activities may confront personal convictions as to what is appropriate and what is not when giving or adapting OERs.
Studies addressing the factor	Rahman et al. 2013; Gustavsson 2009; Chih-Yang et al. 2011; also expert interviews support the relevance of this factor (but rather as an outcome, helping to measure the uptake of activities).
Contextualization EAGLE D2.2.A	The role of social interactions was highlighted very often. Personal exchange and getting to know someone more personally is one attracting feature for f2f learning. It raises concerns whether these contacts may be established, maintained etc. online (Section Excuse D2.2.A.).


Superior support

Theoretical underpinnings	Premise: The theoretical premise why the construct is important: The activity OER exchange is unfamiliar to the public sector. While the OER exchange tends to be a self-regulatory approach.
Studies addressing the factor	Rahman et al. 2013; Beuselinck et al. 2007; Greiling & Halachmi 2013; Yao et al. 2007; Gustavsson 2009; Yang & Ruan 2007; Chen 2014; Barette et al. 2012; Schraeder et al. 2005.
Contextualization EAGLE D2.2.A	There is a strong demand for superior and managerial support of activities. Lack of support to training covering tutors as well as administrative superiors was mentioned frequently (requirements nr. 1.1.c.)

Excuse: Requirements for EAGLE (D2.2.A.)

Organisational level


No	Category	Subcategories	Reference No Subcategories
1.1.	Lack of managerial organisation	Lack of systemised education, planning and practice of training, lack of feedback loops (knowledge management) in the current organization	1.1.a.
		Lack of coordinated change management	1.1.b.
		Lack of support to learning efforts given a lack of responsible coordinators for training as well as low political support	1.1.c.
1.2.	Lack of knowledge about	Lack of awareness, experiences, digital skills and e-Learning comprehension and the demand for guidelines of	1.2.a.

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TEL	OER use and provision of introductory courses	
1.3. Lack of knowledge sharing	Lack of systemized knowledge multiplication and exchange, competition on the international, national and inter-sectorial level	1.3.a.
	Perceived differences in administrative culture, regional boundary, perceived contractual distance	1.3.b.
1.4. Language issues	Concerns regarding the communication and language of content	1.4.a.


Individual (intra-departmental level)

No	Category	Subcategories	Reference No Subcategories
2.1. Trust and relevance of information/knowledge		Immediate application of knowledge at the workplace, orientation on expert knowledge	2.1.a.
		Lack of trust in information, need for authentication and validation of OER and learning resources	2.1.b.
2.2. Lack of internal knowledge sharing		Lack of internal knowledge sharing among employees due to bad climate, reluctance, mistrust or competition	2.2.a.
		Dominance of informal knowledge sharing among close friends, rejection of compulsory learning	2.2.b.
2.3. Low motivation to change towards e-Learning		Low motivation to start e-Learning both in general or as the only training method, general reluctance to learning	2.3.a.
		Demography issues, the older people get, the less they are interested in continuous (e-)Learning	2.3.b.
		Lack of motivation due to missing rewards and feedback to (self-) learning efforts and concerns about long-lasting accomplishments	2.3.c.
2.4. Aversion to digitalization trends		Preference for traditional, non-digital learning for personal and for social-interactive preferences	2.4.a.
		Perceived misfit of e-Learning within the daily routine	2.4.b.
		Low acceptance of e-Learning at the workplace within daily routine and among colleagues Rejection of learning at the workplace due to low or bad experiences and knowledge of advanced examples with good content and usability	2.4.c.

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Resource specific issues

No	Category	Subcategories	Reference No Subcategories
3.1.1.	Lack of Learning environment	Lack of budget, time, space, integrity home	3.1.1.a.
3.1.2.	Lack of platform resources	Lack of platforms, DMS, digitized contents	3.1.2.a.
		lack of relevant educational, learning contents in depth, granularity, ease of understanding	3.1.2.b.
3.1.3.	Lack of digital networks	Lack of Internet and broadband	3.1.3.a.
		Concerns about integration of systems and towards secure network technologies, blocked IPs, closed systems	3.1.3.b.
		Lack of digital facilities in general, DMS, lack of mobile devices, demand for repositories	3.1.3.c.
		Restriction of a BYOD policy, practice	3.1.3.d.
		Concerns towards maintenance of the platform	3.1.3.e.
3.1.4.	Usability of the EAGLE platform, requirements	Unless documents are easy to create, find, consume (read through 1-2h), they won't be used, visualization	3.1.4.a.
		Unless documents are rateable, receive quick responses and or personalized feedback, the use of OER is of low value	3.1.4.b.
		Unless OER are filtered easily on the federal level and for theme specific means in the particular language, OER are of low value	3.1.4.c.


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Culture questionnaire

The culture questionnaire serves to verify the constructs elaborated and validated during expert interviews. The provided links are versions for the reviewers. The links provided to participants are available over the EAGLE portal and accelopment website. This is for means of integrating work in the project as well as informing participants on a similar basis about the EAGLE platform and project.

6.1.1 Questionnaire for English / Irish speaking participants

Cultural factor	Questions and statements to agree / disagree with (5 Likert scale)
BA1	Public employees may break rules to bring innovation to daily work.
	Public employees should respect official channels irrespective of anything else.
	At our workplace, we should have freedom to apply new knowledge.
	There should be no open discussion concerning errors and job-related problems at the workplace.
	Errors made by public employees and superiors in local authorities should be discussed openly.
	Information is power. Due to this, knowledge is not shared in our workplace.
BA2	Superiors and experts should decide which topics are suitable for adapting open knowledge resources.
	Public employees should decide independently which materials are used as open knowledge resources.
	Typically, I prefer when materials which support the adaptation of open knowledge resources are selected by:
BA3	Open knowledge resources should provide practical examples. Otherwise public employees can neither use nor adapt them for personal learning means.
	Open knowledge resources should elaborate on general models and principles. Otherwise public employees can neither use nor adapt them for personal learning means.
	The content of open knowledge resources should primarily show:
	To adapt open knowledge resources according to own preferences, different kinds of media types should be available.
	Only one or two media formats should be permitted in order to facilitate using open knowledge resources.
	Select which decision is necessary to adapt open knowledge resources for personal learning means:
EC1	At our workplace, open knowledge platforms are perceived as:
	The adaptation of open knowledge resources for own learning means is monitored by superiors and experts.
	Open knowledge resources enable establishing social contacts. You gain a feeling what expertise colleagues have and you may have personal contact later on.
EC2	Superiors should convey ideas which help us adapting open knowledge resources at our workplace.
	Every public employee has to explore independently how to adapt open knowledge resources.
	Superiors should concentrate on other activities than on providing support for adapting open knowledge resources.
	Central ministries should state the clear support of open knowledge resources for learning means.
	The adaptation of open knowledge resources will not be realized without support of higher administrative levels in the public sector.
	Central ministries should concentrate on other activities than the use of open knowledge resources for personal learning means.


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EC3	Terminology is the key: Open knowledge resources can only be adapted meaningfully, if author and user are working in the same domain within the public sector.
	Language is the key: Open knowledge resources can only be adapted meaningfully, if author and user are speaking the same mother tongue.
	Geography is key: open knowledge resources of others can only be used, if author and user are coming from the same country.
	Only those open knowledge resources which originate from public employees of a country are relevant to those in the same country.
	Public employees should be able to exchange open knowledge resources across national borders.
CA1	There should be concrete support of technical facilities (internet infrastructure and applications such as speakers) to adapt open knowledge resources.
	It is sufficient to share technical facilities between public employees (such as laptops) to adapt open knowledge resources.
	Open knowledge resources will only be used if good physical conditions are present (such as adequate work space, digital tools, broadband connection).
	The time available for adapting open knowledge resources at the workplace should be determined regularly.
	The time needed to adapt open knowledge resources should be arranged freely to the convenience of public employees.
CA2	The point of time for adapting open knowledge resources should be attuned with superiors and colleagues.
	There should be rules determining:
	No regulation should be set which addresses the adaptation of open knowledge resources for personal learning means.
DV	Have you ever adapted open knowledge resources or not?
	I will not use open knowledge resources.
	I will use open knowledge resources for my own learning means at my workplace.
	I will adapt open knowledge resources of other authors.
	I am sceptical that I will every use open knowledge resources for my own learning means at my workplace.
	I will use open knowledge resources, but I will not further adapt them.
	Taking all questions into account, I will create open knowledge resources for others' and personal learning means at my workplace.
	Taking all questions from the survey into account, I will adapt open knowledge resources for personal learning means at my workplace.
Once a platform (such as EAGLE) is available to me, I will test how to exchange open knowledge resources.	
Dem	I am a (gender)
	My age is about
	I am working in the domain
	I am working in the public sector (irrespective of rotation)
	I have changed work domains due to rotation of personal re-orientation


6.1.2 Questionnaire for Montenegrin speaking participants

The culture questionnaire for Montenegrin speaking participants can be found here:

Cultural factor	Questions and statements to agree / disagree with (5 Likert scale)
BA1	U slučaju potrebe uvođenja inovacija u radu smatrate li da službenici mogu promijeniti postojeća pravila rada.
	Svakodnevni posao treba da prati unaprijed definisana pravila rada u lokalnim samoupravama (državnim organima).
	Kao službenik javne administracije treba da imam slobodu da uvedem inovacije i

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	primijenim nova znanja O greškama u radu službenika i nadležnih u javnoj administraciji treba otvoreno da se diskutuje. Greške i problemi u radu ne treba javno da se diskutuju na radnom mjestu. Nema razmjene znanja između stručnih i iskusnih kolega i onih kojima treba dodatno znanje za obavljanje posla.
BA2	Rukovodioci i eksperti treba da definišu teme u okviru djelatnosti javne administracije koje su pogodne za prilagođavanje otvorenih resursa za učenje. Službenici u Direktoratima/Sektorima treba da definišu informacije i dokumenta za specifičnu temu u okviru djelatnosti javne administracije koji mogu biti javno dostupni kao otvoreni resursi za učenje. Smatram da informacije i dokumenta za specifičnu temu u okviru djelatnosti javne administracije koji mogu biti javno dostupni kao otvoreni resursi za učenje treba da definišu:
BA3	Otvoreni resursi za učenje treba da pruže praktične primjere i informacije koje se mogu primijeniti na radnom mjestu. U suprotnom, službenici javne administracije ne mogu koristiti otvorene resurse za učenje za lično usavršavanje i učenje. Otvorene resurse za učenje treba objasniti na temelju teorijskih modela i opštih načela, inače ih službenici drugačije ne mogu ni koristiti ni prilagođavati za vlastite potrebe učenja. Sadržaj otvorenih resursa za učenje treba prvenstveno da bude predstavljen pomoću: Za prilagođavanje otvorenih resursa za učenje treba obezbijediti različite medije, tako da svaki službenik može da ih koristi prema svom izboru. Izbor dostupnih medija za otvorene resurse za učenje treba ograničiti na jedan, ili dva formata. Šta je neophodno da bi prilagodili otvorene resurse za učenje za vlastite potrebe učenja:
EC1	Platforme koje sadrže aktivnosti elektronskog učenja i otvorene resurse za učenje zamišljene su kao: Prilagođavanje otvorenih resursa za učenje, predstavlja aktivnosti koje odgovorno lice (pretpostavljeni, stručnjaci i predavači) prati i procjenjuje. Otvoreni resursi za učenje su prvi korak ka socijalizaciji, što znači stupiti u kontakt sa kolegama u javnom sektoru i steći predstavu o svojoj stručnosti za kasnije razgovore.
EC2	Starješine organa treba da predlože ideje koje bi službenicima pomogle da se uključe u prilagođavanje otvorenih resursa za učenje. Timovi za promjene (pretpostavljeni, IT stručnjaci i predavači) treba da pokažu kako se prilagođavaju otvoreni resursi za učenje. Starješine organa treba da se usredsrede na druge aktivnosti, i da pruže podršku u prilagođavanju otvorenih resursa za učenje. Korišćenje otvorenih resursa za učenje za vlastite potrebe zahtijeva punu podršku od strane menadžementa javne administracije. Prilagođavanje otvorenih resursa za učenje neće biti relizovano bez podrške viših autoriteta u javnom sektoru. Menadžment javne administracije treba da se usredsredi na druge aktivnosti, i da koristi otvorene resurse za učenje za vlastite potrebe.
EC3	Zaposleni u javnoj administraciji mogu prilagoditi značajne otvorene resurse za učenje samo za saradnju sa partnerima (drugim korisnicima), ukoliko rade u istoj oblasti javnog sektora. Jezik: Zaposleni u javnoj administraciji mogu prilagoditi otvorene resurse za učenje samo za saradnju sa partnerima (drugim korisnicima), ukoliko su sa istog govornog područja. Geografski položaj: Zaposleni u javnoj administraciji mogu samo koristiti otvorene resurse za učenje za saradnju sa interesnim grupama i drugim korisnicima, ukoliko su iz iste države. Korišćenje otvorenih resursa za učenje u javnoj administraciji treba da bude ograničeno na okvir nacionalnih granica. Razmjena otvorenih resursa za učenje u javnoj administraciji ne bi trebalo da zavisi od državnih granica.


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CA1	Po vašem mišljenju smatrate li da treba da postoji konkretna podrška u vidu tehničke opremljenosti (internet infrastructure, oprema) za prilagođavanje otvorenih resursa za učenje.
	Da bi se obezbijedilo prilagođavanje otvorenih resursa za učenje u javnoj administraciji potreban je najmanje jedan set odgovarajućih tehničkih sredstava.
	Neophodno je da svaki službenik ima dobre uslove u pogledu prostora, digitalnih alata i broadband konekcija za prilagođavanje otvorenih resursa za učenje.
	Treba odrediti krajnji rok zaposlenima u javnoj administraciji za prilagođavanje otvorenih resursa za učenje.
	Vrijeme potrebno za prilagođavanje otvorenih resursa za učenje treba slobodno organizovati prema potrebama službenika.
	Vrijeme za prilagođavanje otvorenih resursa za učenje treba isplanirati zajedno sa starješinama organa, kao i sa kolegama unutar službe.
CA2	Potrebno je imati regulatorne okvire (uputstva) koji definišu.
	Organizacione jedinice u javnim upravama ne treba da definišu pravila koja se bave prilagođavanje m otvorenih resursa za učenje za vlastite potrebe.
DV	Da li smatrate da možete da prilagođavate otvorene obrazovne resurse, kao sredstvo samostalnog učenja?
	Koliko je vjerovatno da ćete koristiti otvorene resurse za učenje?
	Koliko je vjerovatno da ćete prilagoditi otvorene resurse za učenje za vlastite potrebe?
	Ja ću koristiti otvorene resurse za učenje, ali ih dalje neću prilagođavati.
	Ja ću koristiti otvorene resurse za učenje za vlastite potrebe na svom radnom mjestu.
	Ja ću prilagoditi otvorene resurse za učenje drugih autora.
	Ja neću uopšte koristiti otvorene resurse za učenje.
	Ja nijesam siguran da ću svakodnevno koristiti otvorene resurse za učenje za vlastite potrebe na svom radnom mjestu.
Demo	Zaokružite pol ispitnika
	Zaokružite godište
	Navedite oblast rada
	Navedite dužinu radnog staža
	Navedite da li ste mijenjali službu zbog lične preorijentacije


6.1.3 Questionnaire for German speaking participants

The culture questionnaire for German speaking participants can be found here:


Cultural factor	Questions and statements to agree / disagree with (5 Likert scale)
BA1	Um Innovation in die tägliche Arbeit zu bringen, müssen Angestellte im öffentlichen Dienst vom offiziellen Dienstweg abweichen dürfen.
	Angestellte im öffentlichen Dienst sollten den Dienstweg in jedem Fall einhalten.
	An unserem Arbeitsplatz sollten wir Freiraum haben, neues Wissen anzuwenden.
	Fehler von Angestellten und Vorgesetzten im öffentlichen Dienst sollten offen diskutiert werden.
	Am Arbeitsplatz sollte nicht offen über Fehler und Probleme diskutiert werden.
	"Wer Informationen hat, hat Macht". Aus diesem Grund wird kein Wissen am Arbeitsplatz geteilt.
BA2	Vorgesetzte und Experten sollten festlegen, welche Themen für die Anpassung offener Wissensressourcen angemessen sind.
	Angestellte im öffentlichen Dienst sollten eigenständig entscheiden, welche Materialien als offene Wissensressourcen genutzt werden.
	Angestellte im öffentlichen Dienst sollten eigenständig entscheiden, welche Materialien als offene Wissensressourcen genutzt werden.
BA3	Offene Wissensressourcen sollten praktische Beispiele vermitteln. Andernfalls können

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	<p>Angestellte im öffentlichen Dienst sie weder für eigene Lernzwecke nutzen noch anpassen.</p> <p>Offene Wissensressourcen sollten sich mit allgemeinen Modellen und Prinzipien befassen. Andernfalls können Angestellte im öffentlichen Dienst sie weder für eigene Lernzwecke nutzen noch anpassen.</p> <p>Der Inhalt einer offenen Wissensressource sollte hauptsächlich enthalten:</p> <p>Verschiedene Medienformate (Text, Audio, Video) sollten zur Verfügung stehen, um offene Wissensressourcen nach eigenen Präferenzen anzupassen.</p> <p>Es sollten nur ein bis zwei Medienformate zugelassen sein, um offene Wissensressourcen besser nutzen zu können.</p> <p>Welche Entscheidung ist aus Ihrer Sicht notwendig, um offene Wissensressourcen für eigene Lernzwecke anzupassen:</p>
EC1	<p>An unserem Arbeitsplatz werden offene Wissensplattformen wahrgenommen als:</p> <p>Die Anpassung von offenen Wissensressourcen für eigene Lernzwecke wird von Vorgesetzten und Experten beobachtet und evaluiert.</p> <p>Offene Wissensressourcen ermöglichen soziale Kontakte zu schließen. Man lernt die Expertise anderer Kollegen kennen und kann sich später direkt austauschen.</p>
EC2	<p>Vorgesetzte sollten Ideen vermitteln, die uns helfen, offene Wissensressourcen an unserem Arbeitsplatz anzupassen.</p> <p>Jeder Angestellte im öffentlichen Dienst sollte eigenständig herausfinden, wie das Anpassen offener Wissensressourcen funktioniert.</p> <p>Vorgesetzte sollten sich auf Anderes konzentrieren, anstatt Hilfestellung zur Anpassung offener Wissensressourcen zu geben.</p> <p>Zentrale Ministerien sollten ihre Unterstützung von offenen Wissensressourcen zu Lernzwecken klar ausdrücken.</p> <p>Ohne die Unterstützung höherer Hierarchieebenen im öffentlichen Sektor, wird die Anpassung offener Wissensressourcen nicht umgesetzt.</p> <p>Zentrale Ministerien sollten sich auf Anderes konzentrieren als die Nutzung offener Wissensressourcen für Lernzwecke von Angestellten im öffentlichen Dienst.</p>
EC3	<p>Fachbegriffe sind der Schlüssel: Offene Wissensressourcen können nur dann sinnhaft geteilt werden, wenn der Autor und Nutzer aus dem gleichen Arbeitsbereich im öffentlichen Sektor kommen.</p> <p>Sprache ist der Schlüssel: Offene Wissensressourcen können nur dann sinnhaft angepasst werden, wenn der Autor und Nutzer die gleiche Muttersprache sprechen.</p> <p>Es sind nur die offenen Wissensressourcen relevant, die innerhalb eines Landes von Angestellten im öffentlichen Dienst erstellt werden.</p> <p>Geographie ist der Schlüssel: Offene Wissensressourcen können nur dann sinnhaft von anderen genutzt werden, wenn der Autor und Nutzer aus dem gleichen Land kommen.</p> <p>Angestellte im öffentlichen Dienst sollten offene Wissensressourcen über Landesgrenzen hinweg austauschen dürfen.</p>
CA1	<p>Technische Geräte müssen bereitstehen um offene Wissensressourcen anzupassen (digitale Infrastrukturen und bspw. Lautsprecher).</p> <p>Es ist ausreichend, dass Angestellte im öffentlichen Dienst sich technische Geräte wie bspw. Laptops teilen, um offene Wissensressourcen anzupassen.</p> <p>Offene Wissensressourcen werden nur dann für eigene Lernzwecke genutzt, wenn gute Raumkonditionen am Arbeitsplatz vorliegen (angemessener Platz, digitale Infrastrukturen, Licht, etc.)</p> <p>Es sollte festgelegt werden, wie viel Zeit zur Anpassung offener Wissensressourcen am Arbeitsplatz regelmäßig zur Verfügung steht.</p> <p>Jeder Angestellte im öffentlichen Dienst sollte sich die Zeit zur Anpassung offener Wissensressourcen frei (nach eigenem Ermessen) einteilen können.</p> <p>In jedem Fall sollte der Zeitpunkt zum Anpassen offener Wissensressourcen mit Vorgesetzten und Kollegen abgestimmt werden.</p>
CA2	<p>Es sollten Dienstvorschriften erlassen werden:</p>


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	Es sollten keine Vorschriften an unserem Arbeitsplatz erlassen werden, die sich mit dem Anpassen offener Wissensressourcen für eigene Lernzwecke befassen.
DV	Haben Sie jemals offene Wissensressourcen für eigene Lernzwecke angepasst, oder nicht?
	Wie wahrscheinlich ist es, dass Sie offene Wissensressourcen nutzen werden?
	Wie wahrscheinlich ist es, dass Sie offene Wissensressourcen für eigene Lernzwecke anpassen werden?
	Ich werde offene Wissensressourcen nutzen, aber nicht weiter anpassen.
	Ich werde offene Wissensressourcen von anderen Autoren für eigene Lernzwecke anpassen.
	Ich bin skeptisch, ob ich jemals offene Wissensressourcen für eigene Lernzwecke an meinem Arbeitsplatz nutze.
	Ich bin gespannt darauf, offene Wissensressourcen zu lesen.
	Sofern eine online Plattform (wie bspw. EAGLE) mir zur Verfügung steht, werde ich testen, wie der Austausch offener Wissensressourcen funktioniert.
Demo	Ich bin
	Mein Alter liegt zwischen:
	Ich in dem Arbeitsbereich angestellt:
	Ich bin Angestellte/r im öffentlichen Dienst seit:
	Ich habe meinen Arbeitsbereich auf Grund von Rotation oder Umorientierung bereits gewechselt.


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