



Initial and Future Work with the Easy-to-Read Methodology

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- Online learning and freely available MOOCs have provided many disabled learners with the chance to participate in several subjects
- Online courses can be a way of gaining qualifications for employment by disabled people
- SlideWiki project includes different lines related to accessibility issues for both the learner and the trainer with disabilities
 - Accessibility improvements for teachers and learners with disabilities (SOTON)
 - Workshops and educational activities for social integration of mentally retarded people (ACC)
 - External Trials



- SlideWiki is a crowdsourcing platform where authors can collaborate, reuse, adapt and share slide content for educational purposes
- The SlideWiki platform decomposes learning materials into fine-grained artifacts (slides and decks)
 - Slides and decks are organized into tree structures
 - Slides and decks are internally represented using HTML

- The use of technology is increasing and this implies a change in the trend in our way of acquiring knowledge
- People who are **not able to use current information technologies** are therefore threatened to be excluded from modern information society
 - More critical when talking about **people with intellectual or cognitive disabilities**
- **People with cognitive disabilities** present difficulties in
 - reading comprehension
 - communication
 - ability to respond to different situations

- These difficulties become a **daily barrier** in the understanding, interaction, and use of products and services in different environments
- This cognitive barrier limits the freedom of people with comprehension problems
 - This violates the **right to equal opportunities**
- To tackle with this type of situations, **cognitive accessibility** takes care of achieving the understanding of a content, without requiring the user have prior knowledge on the subject

Introduction: The Easy-to-Read Methodology

- The **Easy-to-Read Methodology** (IFLA, 2010) is the result of a social need
- The **Easy-to-Read Methodology** has the general goal of ending the discrimination of people with intellectual disabilities
- The **Easy-to-Read Methodology** helps to guarantee the exercise of rights included in the **UN Convention on the Rights of Persons with Disabilities**
 - This convention emphasizes that the **access to information in Plain or Easy-to-Read Language** is a matter of democracy and inclusion



State of the Art: Web Content Accessibility Guidelines

- Collection of guidelines (WCAG 2.0 and 2.1) focuses on **technical aspects of web content accessibility**
 - WCAG 2.1 guidelines are categorized into four principles (perceivable, operable, understandable, robust)
 - Each guideline has associated a collection of testable success criteria are created
 - Based on the set of criteria satisfied by the Web content, a particular level of compliance (A, AA or AAA) is assigned to such a content
 - This collection do **not include any guideline related to the Easy-To-Read Methodology**

State of the Art: Easy-To-Read Methodology

- The main goal of having materials that are easy-to-read is to present **clear and easily understood contents**
- The Easy-To-Read methodology aims to have **understandable content and accessible information** for people with learning difficulties

Persons with a disability

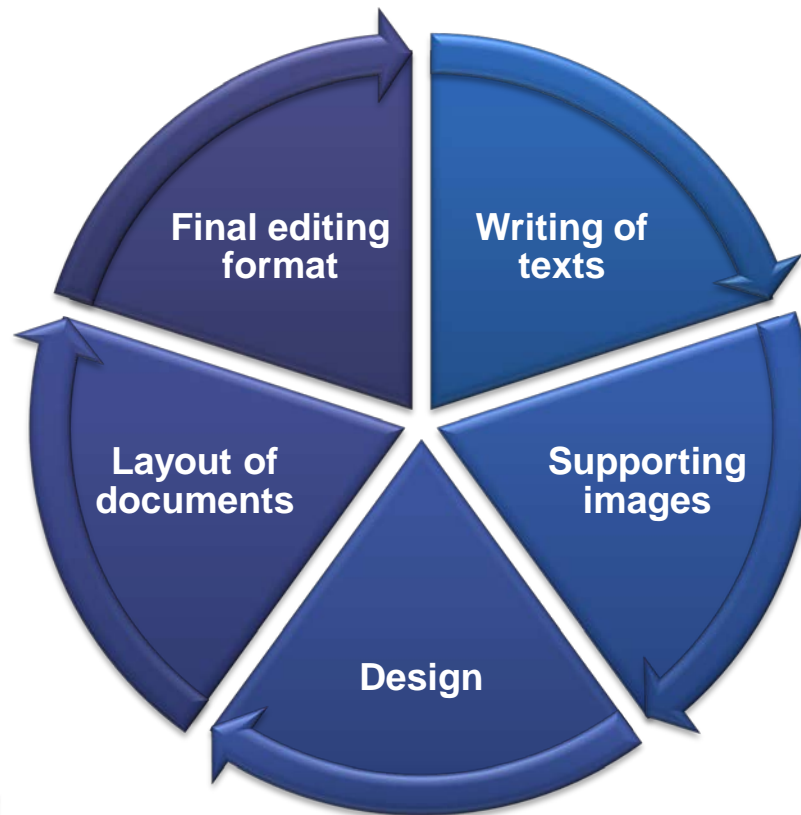
- They have a permanent need for easy-to-read products

Readers with limited language or reading proficiency

- They may find this kind of material useful, for a period of time

State of the Art: Easy-To-Read Methodology

- The E2R Methodology provides guidelines, requirements, and recommendations for different aspects of a document



State of the Art: Easy-To-Read Methodology

- Recently, the Spanish Association for Standardization (UNE) has published the experimental standard "UNE 153101 EX: Easy to read. Guidelines and recommendations for the elaboration of documents"
 - This is the first technical norm related to the E2R Methodology

State of the Art: Easy-To-Read Methodology

- The level of compliance with E2R guidelines can be evaluated manually
 - by means of **using checklists**, as for example the one created in the PUZZLE project and
 - by **involving groups of people who discuss about the E2R requirements** covered in a particular material
- Manual approaches are labour-intensive and costly

State of the Art: Easy-To-Read Methodology

- In order to decrease both time and resources spent for verifying E2R guidelines, semi-automatic tools (the so-called **validators**) can be used
 - An approach to empirically validate and verify E2R guidelines in material written in German
 - VisRA, whose aim is to support the writer in the task of revising a text
- There are validators for languages such as English and German
- To the best of our knowledge, there are **no validators for Spanish**



To help in the global process of
adapting Spanish materials to
the E2R Methodology

- Understanding and formalizing
 - the E2R Methodology
 - and how the E2R Methodology is used
- Methods and proofs of concepts for:
 - Analysing the conformance of E2R guidelines in materials
 - Transforming materials to be according to E2R guidelines
- Validation of materials and generation of gold standard
 - Using SlideWiki decks
- Project proposal writing
 - Fundación UNIVERSIA
- Paper writing
 - EKAW 2018

Understanding and Formalizing the E2R Methodology

- Based on the catalogue presented in “Lectura fácil: Métodos de redacción y evaluación” (2012)
 - Components, Levels and Aspects

COMPONENTS	LEVELS	ASPECTS
Writing	Spelling	Capital letters
		Punctuation
		Other punctuation marks
		Numbers
		Numerical figures
		Monetary amounts
		Phone numbers
		Dates
	Grammar	Verbs
		Parts of the sentence
		Sentences
	Vocabulary	Complexity of vocabulary
		Lexical units
		Semantic accidents
	Style	General guidelines

COMPONENTS	LEVELS	ASPECTS
Design and Layout	Images	Semantic features
		Technical features
		Layout
	Typography	Typographic variety
		Typographic features
	Composition of Text	Lines
		Paragraphs
		Material
		Layout details
		Space distribution

Understanding and Formalizing the E2R Methodology

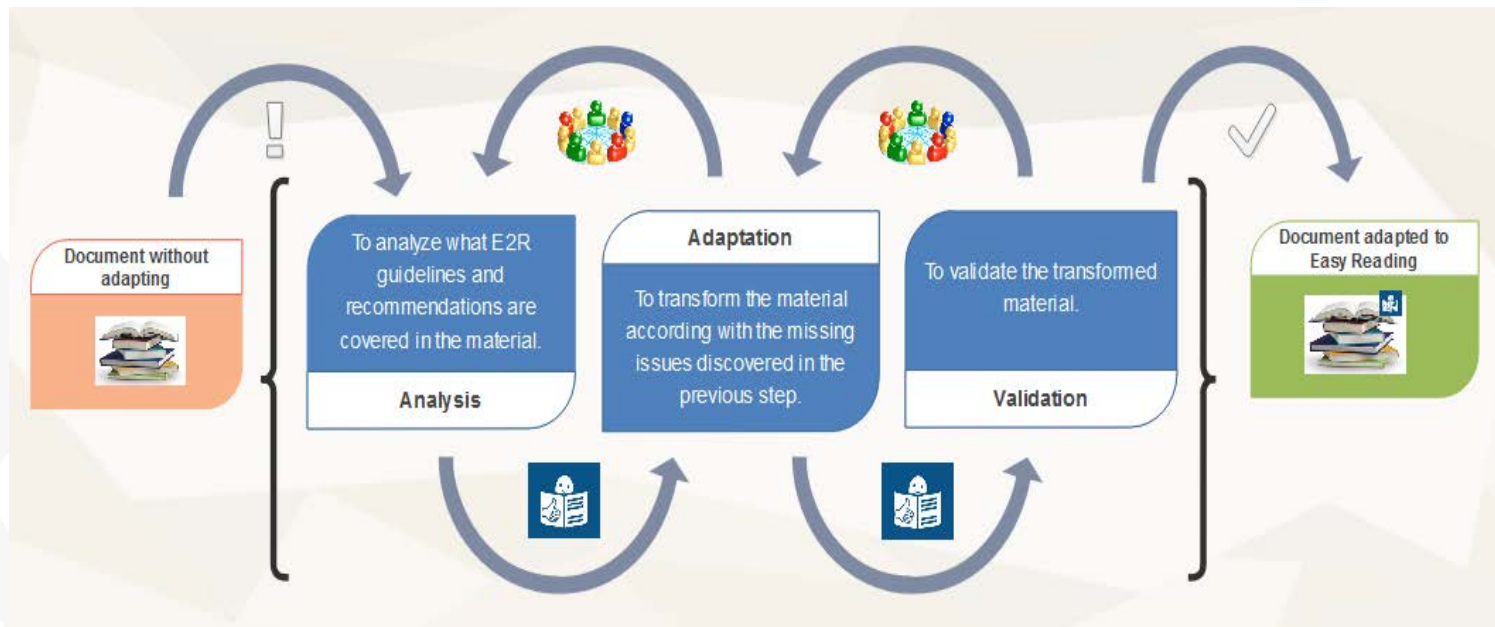
- Each aspect is evaluated with respect to a list of guidelines
 - For example, in the **Punctuation Aspect**, two important guidelines are
 - 'to use the dot to divide sentences'
 - 'to avoid the use of the comma to divide phrases'
 - For example, in the **Parts of the Sentence Aspect**, the crucial guideline is 'sentences should always include the subject'
- The 25 identified aspects are evaluated with a total of **69 guidelines**

Understanding How the Easy-To-Read Methodology is used

- The E2R Methodology is used in the manual processes of
 - adapting existing documents and
 - producing new contents
- These processes are human resource consuming
 - It is needed to involve people with cognitive disabilities as well as people with expert knowledge in E2R Methodology

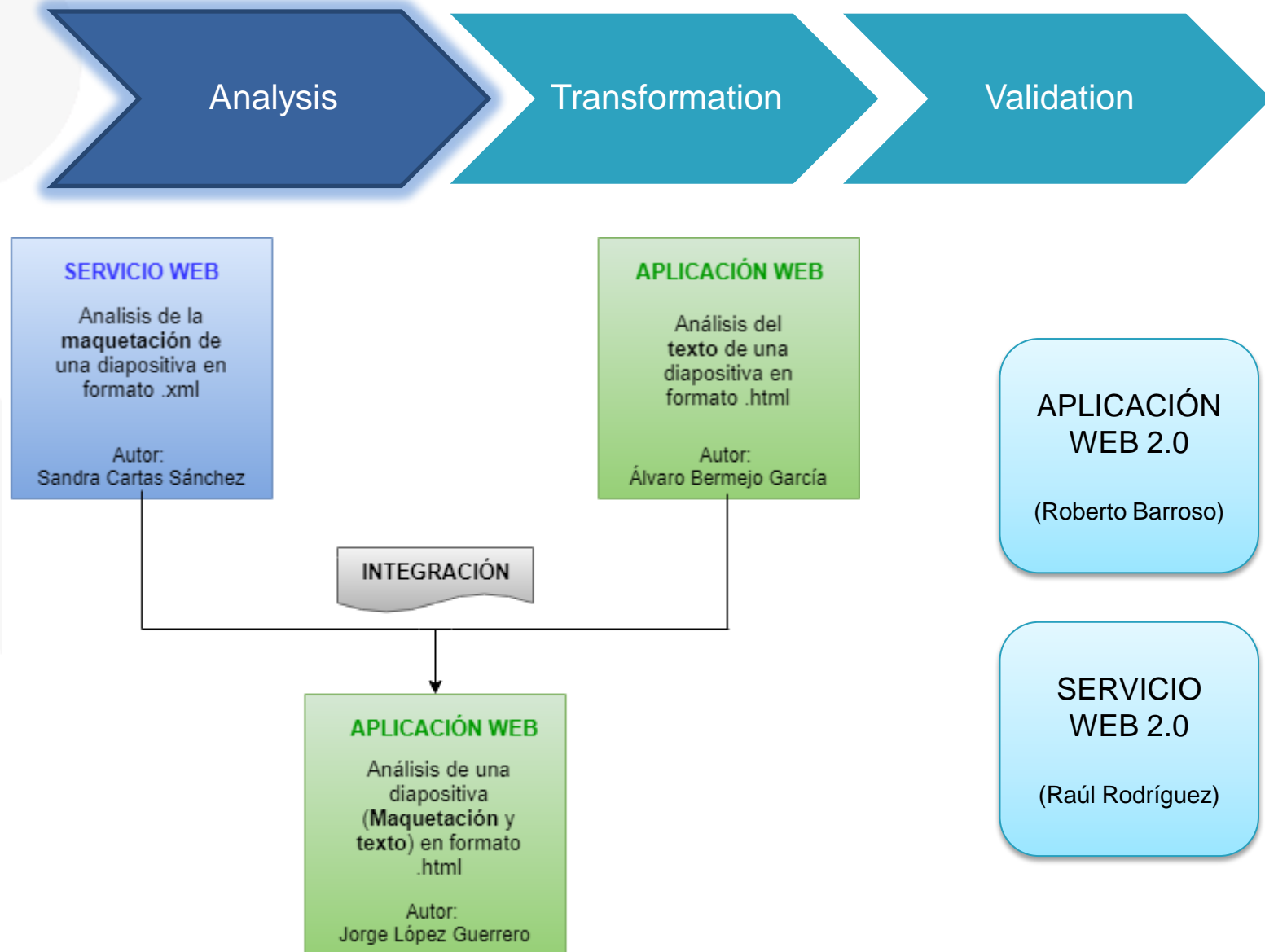
Understanding How the Easy-To-Read Methodology is used

- The process of adapting a particular material to be compliant to E2R guidelines is cyclic
 - Three key activities are performed as part of a cyclic process

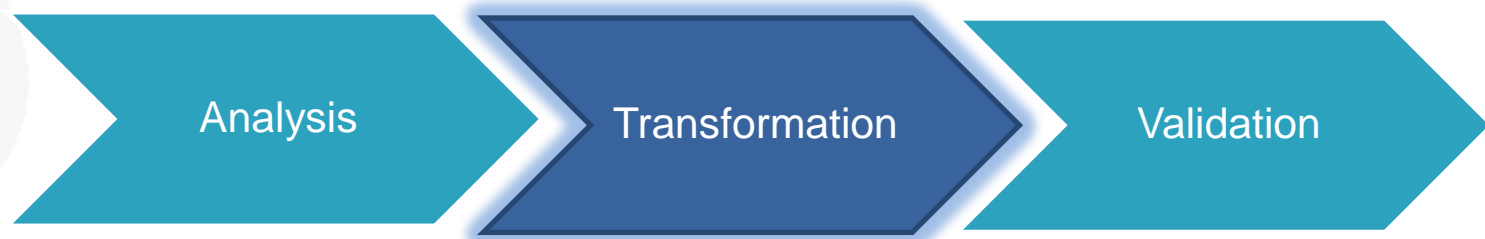


- When the two first activities (analysis and transformation) are exhaustive and meticulous, the difficulty in the validation process decreases considerably

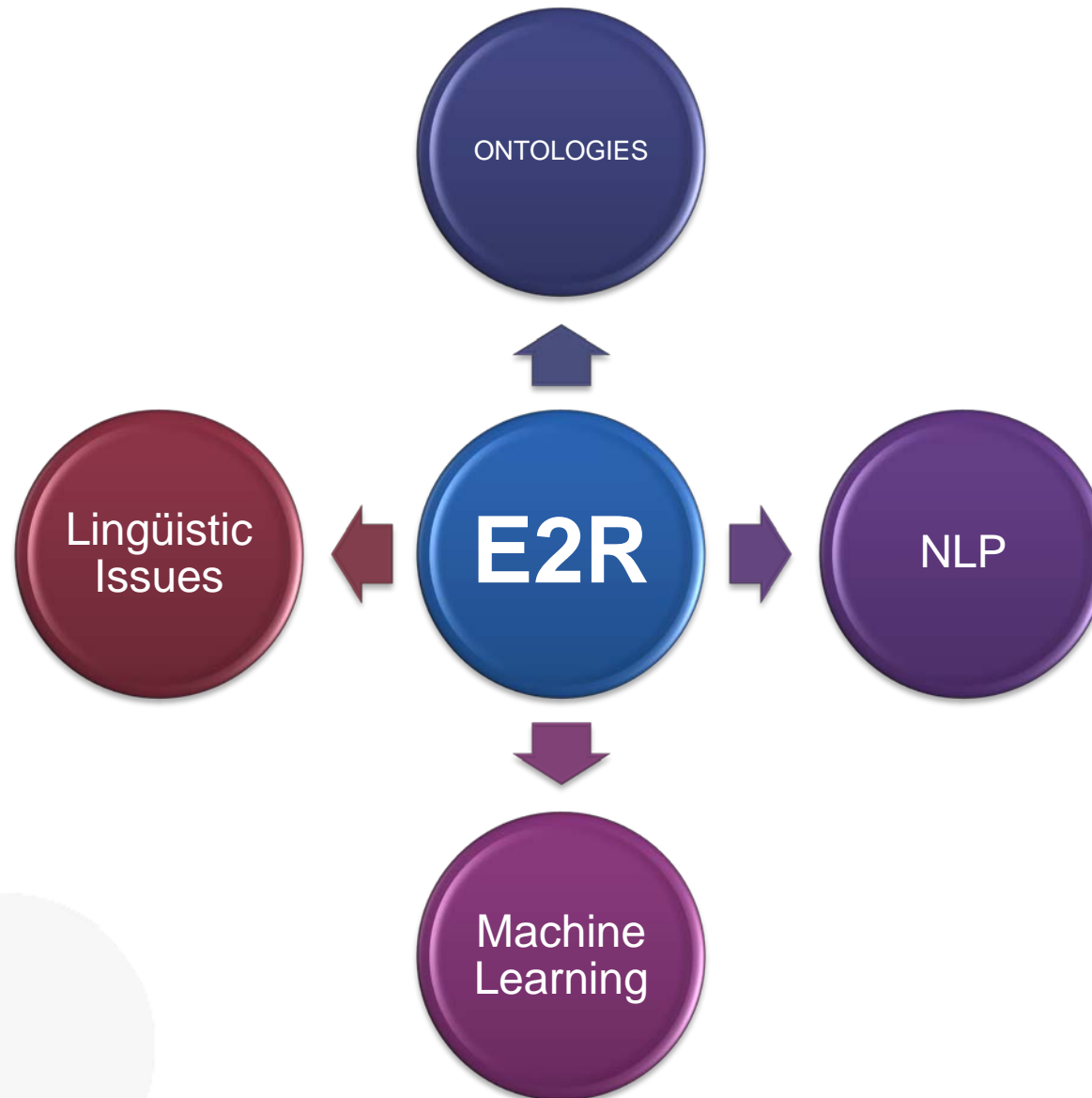
Analysis: Methods and Proofs of Concepts



Transformation: Methods and Proofs of Concepts



- New proposals of TFGs
- 1 TFM (Clara Cerrato)
- Participation in W3C
 - Cognitive and Learning Disabilities Accessibility Task Force
- Search of funding opportunities



- Improvements of analysis and transformation of materials
- Working on Plain Language
- Metaphor discovering, interpretation, explanation and transformation
 - Initial conversations with Paula P.
- Image interpretation, explanation and transformation
 - Plans to talk with Emilio S.
- To establish (national and international) collaborations with people working on similar issues

- E2R Methodology helps to provide people with cognitive disabilities access to knowledge and information in equal conditions than average people
- Having (semi-) automatic tools that support the adaptation of materials to the E2R Methodology improves the daily life of people with cognitive disabilities

- Como hacer una presentación accesible:
 - <https://slidewiki.org/deck/115443/12-como-hacer-una-presentacion-accesible/deck/115443>
- Utiliza el diccionario fácil:
 - <http://diccionariofacil.org/>

Useful Issues for All: E2R guidelines in presentations

- The '6' Rule:
 - No more than 6 words per line
 - No more than 6 lines per paragraph
 - No more than 6 elements in a graphic
- Related to text:
 - Arial and Helvetica are the recommended fonts
 - Text with letter size close to size 28 and never below 24
 - Maximum of 50 words per slide
- Related to images:
 - Image size should be adjusted to the size of the projector and the number of people attending the presentation
 - The use of color should be moderate
 - Gradient colors should not be used
 - The red color should be avoided

- People from ACCEDES
 - Isabel Cano and colleagues
- Students who performed their TFGs
 - Sandra Cartas
 - Álvaro Bermejo
 - Jorge López
 - Clara Cerrato
 - Raúl Rodríguez
 - Roberto Barroso
- People who performed validations
 - Ana M. Bravo
 - Andrea Montero
- Researchers at OEG
 - Carlos Badenes
 - Pablo Calleja



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