

Legal Design and Easy Language: creating a set of images to illustrate administrative texts aimed at migrants

Chiara Fioravanti*

Abstract

Understanding legal and administrative information is difficult for lay people, especially when they face language and cultural barriers, such as migrants with limited second language skills. Explanatory texts in Easy Language can facilitate the understanding of this information, particularly if accompanied by images provided in this accessible language. However, despite existing guidelines for the use of images in Easy Language texts, there is a lack of guidance on how to design images suitable for specific audiences and contexts. This research proposes an image design method for Easy Language texts related to administrative procedures for newcomers and offers insights into effective design strategies for this context, derived from a field experiment. The image design was carried out using a participatory method according to the human-centered design principles. Through the different design phases (from identifying key procedural elements and concepts that require visual explanation, to prototyping, evaluation, and redesign of the images) stakeholders like civil servants and linguistic-cultural mediators, as well as groups of target users were involved. Particularly, mediators were asked to verify the intercultural comprehensibility of the images and their appropriateness for a multicultural society. The final comprehensibility testing of the 61 images created was conducted with 50 target users from 18 different countries using the 'Method for testing comprehensibility' of the ISO 9186-1:2014 standard (Graphical symbols — Test methods) as a guide.

Keywords: Access to justice, Easy Language, Human-centered design, Migrants with low second language skills, Image design.

Introduction

It is common knowledge that comprehending legal and administrative information is challenging for many lay people. The language used to communicate the law generally has a style (also known as 'legalese') characterised by verbosity, complexity and vagueness (Zödi, 2019, p.246). In addition, it is often taken for granted that the average citizen is familiar with legal concepts, however they usually lack the necessary professional knowledge to understand them (Maaß & Rink, 2021, p.2). This causes many users to face expert knowledge and expert language barriers when reading legal texts (Rink, 2020).

* Researcher, Institute of Legal Informatics and Judicial Systems (IGSG), Italian National Research Council.
chiara.fioravanti@cnr.it

Understanding this kind of information is even tougher for those who also encounter second language and cultural barriers. This is the case for recent migrants, the target group of this contribution, for whom the difficulties also stem from having low second language skills and little knowledge of the host society, as well as from the fact that information is presented according to the host culture's conventions (Rink, 2020; Ahrens & Fioravanti, 2022).

In order to support the comprehensibility of legal or administrative documents, public institutions often provide explanatory texts, especially through websites, which aim to illustrate to the recipients their content and show them their legal consequences as well as the actions to be taken (Tiberi & Ninatti, 2017), thus creating alternative layers of information suitable for non-expert users (Berger-Walliser et al., 2017). These texts are usually presented in Plain language, a written style centered on the users whose goal is to make information easily scannable and understandable for as large an audience as possible (Vollenwyder et al, 2018).

However, for the category in question, Plain language explanations of rules or procedures may still be too complex. For these users, a language with maximally improved comprehensibility such as Easy Language (Maaß, 2020) could be more effective. Indeed, Easy Language, originally established for people with cognitive impairments, is often also aimed at other target groups, including migrants with low second language skills (Maaß, 2020). Furthermore, the use of imagery recommended in this form of accessible written communication can be very helpful in the context considered. Several studies, in fact, confirm that the use of images associated with words or texts facilitates the acquisition of a second language (Farley et al., 2014; Pederzoli, 2016).

The text-image association typical of Easy Language texts is very beneficial for information comprehension. This is well supported in the literature by the 'dual coding theory' (Paivio, 1971, 1986, 1991; Sadoski & Paivio, 2004). According to this theory, information is processed through two different channels, one specialised in the representation and processing of language (the verbal code) and one specialised in the processing of non-linguistic objects, such as the image code. The interaction of the two coding systems leads to better recall and memorisation of information. In addition, visualisation studies show that the most effective method for non-experts to improve the understanding of complex language, like legal jargon, is to use 'adjunct aids' (for example, illustrations) (Berger-Walliser et al., 2017), that also allow them to better acquire abstract concepts (Mayer, 2002) such as those related to the law.

1. Easy Language and Legal Design - Research activity overview

The activity described in this paper falls within the scope of translating legal texts into Easy Language and can therefore be classified as a Legal Design activity. Indeed, Legal Design is defined by Hagan as 'the application of human-centered design to the world of law to make legal systems and services more human-centered, usable and satisfying' (Hagan, n.d.). In line with this approach, a normative/administrative text translation into Easy Language aims to make the source text accessible and suitable for users with special communication needs (such as people with cognitive disabilities or low language proficiency) (Maaß, 2020). The Easy Language texts do not replace the original sources but provide additional tools to enable access in an inclusive context, removing as much as possible the barriers that the legal text may present to a vulnerable audience (Maaß & Rink, 2021; Fioravanti, 2021). In order to achieve effective texts for the target audience, the Easy Language guidelines prescribe involving the users themselves in the text design and evaluation phases (Inclusion Europe, 2009), as required in a human-centered approach (Norman, 1986; Sharp et al., 2019; Hagan, 2018; Hagan, 2020).

Furthermore, the use of images typical of Easy Language texts makes it possible to associate the activity described here with human-centered experiences that, to make law and justice accessible for the most vulnerable users, rely especially on extra-linguistic means, such as visual media, (e.g. through the use of comics).¹ To come full circle, the Legal Design Manifesto² itself refers to 'visual-first' as one of the fundamental approaches to Legal Design.

2. Research question and motivation

Easy Language guidelines (e.g. Inclusion Europe, 2009; HM Government, Department of Health, 2010; IFLA, 2010; García Muñoz, 2012; Selkokeskus, 2022; Sciumbata, 2022) provide various recommendations regarding images to be used in comprehensibility-enhanced texts. They explain what the purpose of using images in Easy Language text is and what their functions are; they also provide guidance on the different types of images that can be used and the characteristics they need to have, in order to be more understandable and effective. Furthermore, these recommendations emphasize that images must be appropriate for the audience they are targeted to and the text domain.

The following table indicates several guidelines for the use of images in Easy Language texts. All guidelines can be consulted in the cited literature.

Source	Guidelines
<i>Inclusion Europe (2009). Information for all: European standards for making information easy to read and understand.</i>	<ul style="list-style-type: none"> ▪ To illustrate your text, you can use photographs, drawings, or symbols. Where possible, try to use the same style of images throughout your document. ▪ Always use images that are good and right for the people you are writing for. For example, never use images for children when you are writing for adults. ▪ Always choose images that are clear, easy to understand and go well with the piece of text they are helping to explain. ▪ Use the same image to explain the same thing throughout your document.
<i>UK Government, Department of Health (2010). Making written information easier to understand for people with learning disabilities. Guidance for people who commission or produce Easy Read information.</i>	<ul style="list-style-type: none"> ▪ Make sure pictures are easy to understand and reflect the main points being made. ▪ Pictures can be drawings, photographs or other images. Only use one style throughout the document. ▪ Pictures in colour are preferable. ▪ Minimise the use of words in pictures.
<i>IFLA (International Federation of Library Associations and Institutions) (2010). Guidelines for easy-to-read materials. (Professional Reports 120).</i>	<ul style="list-style-type: none"> ▪ A picture which concretely depicts what is described in the text improves understanding and clarifies the message. ▪ An abstract picture can communicate an atmosphere or emotion described in the text. ▪ It is important that the picture agrees with the text.

¹ See for references: Pope & Treni, 2021; Ketola et al., 2023.

² www.legaldesignalliance.org

<p><i>García Muñoz, O. (2012). Lectura fácil. Métodos de redacción y evaluación. Real Patronato sobre Discapacidad.</i></p>	<ul style="list-style-type: none"> ▪ Use images to support the text, referring to it explicitly and with a clear link. To choose the best image, search for the keyword of each part of the text you want to illustrate. ▪ Use images that are easy to understand and recognise, precise in their meaning, simple, with few details, familiar and eye-catching. The image should be useful, not pretty. ▪ Maintain consistency: use the same design for the same idea to reinforce the message. ▪ Use illustrations to represent the diversity of the population.
<p><i>Selkokeskus (2022). The Easy Finnish Indicator 2.0.</i></p>	<ul style="list-style-type: none"> ▪ The purpose of the picture (e.g. to convey information, to create a mood, to provide symbol support) should be suitable for the communicative purpose of the text. ▪ The illustrations should take into account the reader; for example, a publication aimed at adults should have illustrations suitable for adults. ▪ The illustrations should present their object from a typical angle; unusual angles should be avoided. ▪ The illustrations should be cropped so that what is essential for the communicative purpose stands out clearly. Unnecessary and irrelevant items should be faded or cropped out.
<p><i>Sciumbata, F.C. (2022). Manuale dell'italiano facile da leggere e da capire. Come scrivere testi semplici per persone con disabilità intellettive e difficoltà di lettura. Cesati.</i></p>	<ul style="list-style-type: none"> ▪ Use drawings, photographs and clear symbols to help people visualise concepts and understand what you are talking about. ▪ Always use the same image to refer to the same thing. ▪ Always use clear images with few visible elements. ▪ Use images that are appropriate for your audience.

Table 1: Example of guidelines for the use of images in Easy Language tests

However, the Easy Language guidelines do not address *how* to design images for Easy Language texts. How should we design images for Easy Language texts to meet the Easy Language guideline requirements? The experience described here aims to make a contribution to answering this question in the domain of administrative procedures and for the target group of migrants with low second language skills. This was achieved through the experimentation of an image design method and on the basis of the results of the experiment itself, which provided insights into this specific context.

The activity was carried out in the framework of the TEAMS project³, an Italian project funded by the Asylum, Migration, and Integration European Fund (AMIF) from October 2018 to March 2023 and aimed at fostering integration of migrants living in the Tuscany region of Italy. A specific action of the project focused on providing information on immigration rules and procedures through a dedicated web portal called PAeSI Pubblica Amministrazione e Stranieri Immigrati (Public Administration and Immigrants).⁴

³ TEAMS stands for 'Tuscany Empowerment Actions for Migrant System'. More information on the project at www.immigrazione.regione.toscana.it/?q=progetto-teams

⁴ PAeSI web portal (www.immigrazione.regione.toscana.it) is an Italian institutional website on immigration that provides information on procedures and norms regarding to immigration in Italy. It is managed and developed by the Institute of Legal Informatics and Judicial Systems (IGSG) of the National Research Council of Italy (CNR) on behalf of the Tuscany Region and in collaboration with the Prefecture of Florence.

The images, subject of the experimental activity, were designed to illustrate the different parts of Easy Language texts written to explain administrative procedures for obtaining documents and financial aid. The texts accompanied by the images will then be made available in the form of information sheets on the PAeSI web portal to users and civil servants working at immigration offices as supporting information material. The target audience of the information sheets are migrants with low second language skills who need to deal with immigration procedures and public services.

3. Materials and Method

The image design activity focused on procedures concerning administrative fulfillments that commonly have to be completed by newcomers to Italy for work or family reasons in order to reside legally in the country as well as commonly needed procedures by migrants to obtain financial aid for rent, utilities, school services, and public transportation. Thus, this is information that is usually requested at Italian public information desks by people who still have low second language proficiency because they have recently immigrated.

Precisely, the procedures that were worked on are the following:

1. Administrative fulfillments for those arriving in Italy on work visa;
2. Administrative fulfillments for those arriving in Italy on family reunification visa;
3. Registration for the National Health Service;
4. City residency;
5. Family reunification;
6. Renewal of habitual residence;
7. Discount on public transportation pass;
8. Financial aid for school supplies;
9. Discount on school canteen and transportation;
10. Economic aid for utilities (gas, electricity, water);
11. Economic aid for house rent.

The image design was carried out according to the human-centered design approach (Norman, 1986; Sharp et al., 2019; Hagan, 2018; Hagan, 2020) which is focused on users and their needs. To create suitable products, this approach involves stakeholders and the target audience in an iterative process of prototyping, testing and modification of the prototypes based on the feedback received. Through the different design phases, stakeholders like civil servants and linguistic-cultural mediators, as well as groups of target users, were involved. Particularly, in the two-fold evaluation phase, mediators were asked to verify the intercultural comprehensibility of the pictures created and their appropriateness for a multicultural society, and comprehensibility of the reworked images was tested with target users.

3.1 Design phases

The images were designed according to the following phases:

1. Identification of the key elements of Easy Language texts to be represented by images;
2. Review of Easy Language literature and guidelines about image characteristics and style and selection of recommendations of interest;
3. Creation by graphic designers of the first prototypes of the images representing the key elements of the procedures, in line with the guidelines;
4. Focus-group with linguistic and cultural mediators to verify the intercultural comprehensibility of the images, and their appropriateness for a multicultural society;
5. Modification of the images based on feedback provided by the linguistic-cultural mediators;

6. Comprehensibility testing of the images with 50 target group users using the 'Method for testing comprehensibility' of the ISO 9186-1:2014 standard (Graphical symbols — Test methods) as a guide.

3.2. Identification of the key elements to be represented in Easy Language texts

In the Easy Language texts explaining the procedures, key elements were identified to be represented through images that could improve the comprehensibility of each procedure. The basic criterion for choosing the concepts to be explicated with the images was not to illustrate the text but to use them to build up knowledge (Maaß, 2020, p. 121) about the text.

Primarily, it was taken in consideration that it is important to visually represent elements that would allow users to form assumptions on the main content of the procedures (Maaß, 2020, p. 40), so these elements have to reflect the main points of the text (UK Government, 2010, p.27) also in order to help tune users to read the information (Selkokeskus, 2023).

Images should also help readers to 'create a concept in their mental lexicon' generating new knowledge or reactivating prior knowledge (Bredel & Maaß, 2016, p.290; Kröger, 2020, p.190). For this reason, it was chosen to illustrate typical elements of the context mentioned in the procedures (such as professional figures, documents, public bodies or contextual situations) that might be unfamiliar to those who come from another country, or that might help reactivate knowledge for those who have already had some initial experience of those situations or draw parallels with similar experiences. Additionally, in choosing concepts to represent, it was considered that images might also function as an aid to easily identify the different phases of the procedures.

Based on these theoretical considerations, key elements of the procedures to be illustrated were selected with the assistance of civil servants working in the immigration offices of local public bodies who deal with migrants on a daily basis. Their contributions, shared during dedicated meetings, were very important because, as domain experts, prior to the start of image design, they provided clarifications on the administrative processes, identified the main concepts in the procedures to be communicated and pointed out the ones that caused the most difficulties for the users.

Sixty-one elements were identified that can be divided into the following categories:

- Actions (e.g. to pick up the residency permit);
- People (e.g. family doctor);
- Places (e.g. Prefecture);
- Documents (e.g. health card);
- Timings (e.g. document expiry);
- Abstract concepts (e.g. family income).

3.3 Criteria for the creation of the images

The elements selected were then represented by images created by graphic designers, which applied the following criteria derived from the guidelines on style and characteristics of images for Easy Language texts, including the specific recommendations for users with different cultural backgrounds.

First of all, with regard to the type of image, the choice was made to create drawn-images instead of taking or editing photos. This is because drawing allows freer and more specific representation of pertinent elements whereas photos risk showing too many irrelevant details (as indicated in Mencap, 2002, p.13). For this reason, drawings are also more suitable than

photos to convey abstract information that can be found in texts on administrative procedures. It is important, however, that the drawings are not childish but suitable for an adult audience (Maaß, 2020; Inclusion Europe, 2009; Selkokeskus, 2022; Mencap, 2002). Images consistency is another important criterion that was followed. As indicated by the Easy Language, guidelines all images in the text must have the same style (Inclusion Europe, 2009; García Muñoz, 2012; UK Government, 2010).

Graphic designers were then asked to create simple images; meaning they had to show only one idea clearly (as indicated for example in Inclusion Europe, 2009; García Muñoz, 2012; Accessible Information Working Group, n.d.). For this reason images cannot have too many elements in them, but only a few details that catch the eye, the essential ones for their communicative purposes. When necessary, a word was added to the image to better clarify its meaning, as indicated by some guidelines (e.g. Selkokestus, 2022).

With regard to indications for creating images aimed at people with different cultural backgrounds (the target group of the activity), it was considered that using images such as ideograms is not recommended as they can have different metaphorical connotations in relation to different cultures or in any case, users may not understand the convention used. Pictograms are preferable in this context or at least standardized ideograms (e.g. ISO standard symbols) (St. Amant, 2015; Kostelnick, 2017; Ahrens & Fioravanti, 2022).

It was chosen to create colour images because in documents they attract attention and thus can motivate reading (Keyes, 1993) and are usually considered preferable in Easy Language texts (see for example UK Government, 2010), but, as these images are intended for people from different cultures, it was decided not to use colours to represent concepts, as the meaning of the colour code often varies from one culture to another (Pontis & Babwasingh, 2024) or to rely on colour to make an object recognisable - representative image characteristics such as colour often vary across cultures. A letterbox, for example, has a different colour in North America, England and Morocco (Knight et al., 2009).

Finally, in images containing people it was chosen to represent the diversity of the population so that readers feel included as indicated in the guidelines (see García Muñoz, 2012; Lázaro Gutiérrez, 2017; Ahren & Fioravanti, 2022). In fact, as also recommended by The NNgroup (Joyce, 2022), neutral and generic illustrations should not be used as they might be interpreted as representing only the native population. Instead, they argue that it is preferable to use diverse illustrations that are in line with the multicultural population of the host society, showing for example different skin tones or other characteristics to communicate diversity.

3.4 Focus-group with linguistic and cultural mediators

The images created by the graphic designers were then submitted to linguistic-cultural mediators⁵ for their evaluation through a questionnaire and an in-depth focus-group. The aim of this assessment was to verify the intercultural comprehensibility of the images, and their appropriateness for a multicultural society.

Six mediators with migration backgrounds who work daily in public offices assisting citizens from different countries participated in the evaluation of the images.

⁵ The role of linguistic and cultural mediators in Italy is to facilitate communication between public institutions (e.g. municipalities, hospitals, police, courts) and migrants.

Mediator country of origin	Countries of origin of the migrants supported	Mediator years of work experience	Mediator work sectors
Albania	Albania and Kosovo	15	Hospital; centre for unaccompanied foreign minors; public help desk for women victims of violence; information desk for immigration procedures
Tunisia	Algeria, Egypt, Libya, Morocco, Syria, Tunisia	10	Municipal information desk
Senegal	Cameroon, Ivory Coast, Mali, Niger, Senegal	10	Hospital; municipal immigration office; police ; immigration office
Nigeria	Mali, Nigeria, Gambia, Ghana.	17	Public help desk for women victims of violence; reception center for asylum seekers
Bangladesh	Bangladesh, India, Pakistan	12	Hospital; reception center for asylum seekers; municipal immigration office; police immigration office; court
Argentina	Latin America countries	15	School; hospital; reception centre for asylum seekers; police immigration office; court

Table 2: Information on work activity of the mediators participating in the evaluation of the images.

A few days before the focus-group meeting, the mediators received the questionnaire in which they were asked to indicate what in their opinion the different images represented.⁶ The purpose of the questionnaire was not to record the comprehensibility of the images, as the mediators did not represent the target group, but rather to expose them to the images without any indication of what they illustrated so as to make them reflect on the images individually before the group meeting.

During the focus-group (conducted online and recorded), 61 pictures were shown revealing what they were intended to represent. For each picture, a discussion was then held in which each participant was asked to give their opinion on the following three aspects and related questions.

1. General comprehensibility - Do you think this image is easily associated with the concept it is intended to represent? How could it be modified to improve its comprehensibility for the audience you support in your work?;
2. Cross-cultural effectiveness - What elements of this image could be misrepresented or not well understood?;
3. Representation of the multicultural society - In images containing people, do you think the way they are depicted is appropriate?

With regard to the mediators' assessment of the images, in terms of comprehensibility and cross-cultural effectiveness (points 1 and 2), 35 images were considered to be fully

⁶ The questionnaire consisted of a booklet with the 61 pictures on the left and a blank space on the right where the mediators were asked to write down what they thought the different pictures represented.

comprehensible, while for the others some critical points were highlighted which can be categorised⁷ as follows:

Non-recognisable scenario

For example, the image representing the action ‘Apply for residency’ was considered unclear as the dedicated public office depicted could be mistaken for a real estate agency. To clarify the image, it was therefore suggested to add the Italian flag which is always found in Italian public offices.

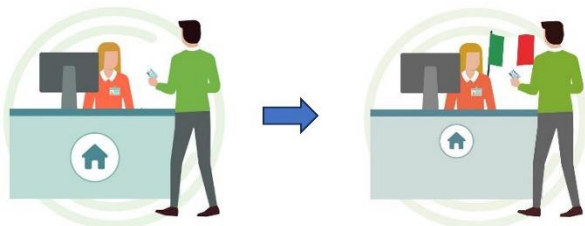


Figure 1: The ‘Apply for residency’ image modified on the basis of the mediators’ feed-back.

Lack of adherence to real objects

It was noticed by the mediators, for example, that the picture representing an Italian document (the tax code) was illustrated as the document Italian citizens receive, whereas the version of that document for recent arrivals in Italy has a different shape and colour.

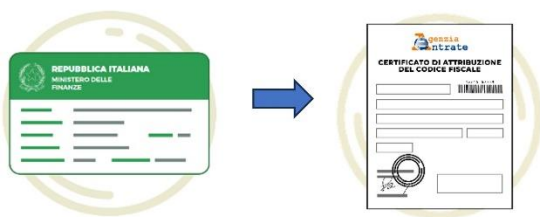


Figure 2: The ‘Tax code’ image modified on the basis of the mediators’ feedback

Lack of international symbols

For some images, the mediators suggested adding international symbols to clarify the meaning. For instance, the mediators proposed adding a red cross, an international symbol for health care to the image representing health services.

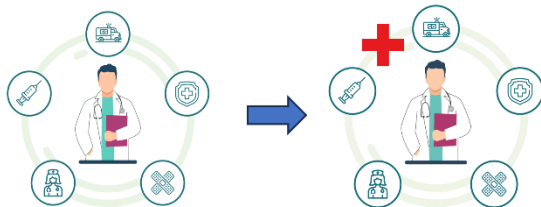


Figure 3: The ‘Health services’ image modified on the basis of the mediators’ feedback

Necessity of words addition

In some cases, the mediators found it necessary to add words to make images that might have been too generic more identifiable. This was the case for the ‘Municipal Immigration Desk’

⁷ The categories of the focus group results were obtained using the inductive method (Moretti et al., 2011).

picture, which could not be distinguished from the immigration desk of another public body without the word ‘Comune’ (Municipality in Italian) to define it.

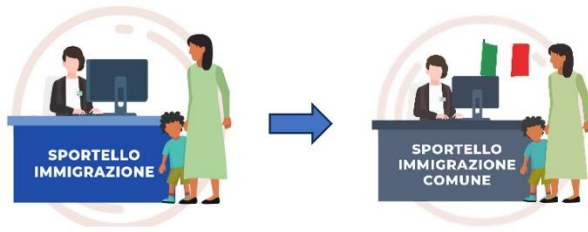


Figure 4: The ‘Municipal Immigration desk’ image modified on the basis of the mediators’ feedback.

Patronizing images

This category includes the picture for ‘Getting help to fill out a form’ in which an operator is shown touching the shoulder of a migrant who is sitting in an office. This scene was considered too patronizing and even disrespectful because in some cultures it is not acceptable to be touched by people with whom you are not familiar.



Figure 5: The ‘Getting help to fill out a form’ image modified on the basis of the mediators’ feedback.

With regard to the representation of people in the images (point 3), the mediators considered it to be appropriate mainly because, although differences between people were highlighted (e.g. skin tone), these differences were not linked to specific nationalities (Chinese, Indian, etc.). According to the mediators, this is the right approach, as images run the risk of stereotyping foreign citizens by associating them with preconceived ideas about the appearance of certain nationalities. In terms of clothing, they agreed on the decision not to depict the veil or other religious symbols since religion is personal and should not be used to generically represent a migrant.

3.5 Comprehensibility testing of the images

The images⁸ were then reworked according to the feedback from the mediators and their comprehensibility was tested with a group of target users.

3.5.1 Test participants characteristics

Test participants were adult students of Italian as second language attending courses provided by the government within the integration agreement in two different public schools and in one private association. These courses are attended by migrants who need to learn the language necessary to fulfil the integration agreement required for the first residence permit and to be

⁸ A selection of the images tested is shown in Appendix 1.

able to apply for a long-term residence permit.⁹ These students corresponded to the intended recipients of the information sheets to be created. For this reason, no one was excluded from participating in the test.

A total of 50 people from 18 different non-EU countries took part in the image comprehensibility test. The characteristics of the participants are summarised in Table 3 below. The test was carried out in 8 sessions between February and March 2023.

Country of origin	Age range	Italian language CEFR level	Length of stay range	Gender rate	Reason for migration
Albania, Bangladesh, Brazil, China, Colombia, Georgia, Iraq, Kosovo, Libya, Morocco, Nigeria, Pakistan, Peru, Russia, Syria, South Korea, Tunisia, Ukraine	18-63	A1, A2 or B1	3 months – 6 years	32% male and 68% female	work, family, study, international protection

Table 3: Test participant characteristics.

3.5.2 Test method

The test of the images with the user was conducted using the ‘Method for testing comprehensibility’ of the ISO 9186-1:2014 standard (Graphical symbols — Test methods) as a guide. Specifically, the ISO method provided guidance for conducting both the written and oral test, defining the task, introducing the test to the participants and explaining what they had to do, preparing the material to be submitted and categorizing the results.

During the meetings, the participants were first introduced to the institutional project promoting the test. The aim of the test was then explained to them. Participants were reassured that they were not being tested but rather the image comprehensibility. Testing was conducted through written questionnaires (for people with knowledge of Italian at level A2 or B1) or through oral interviews (for level A1).

For the written test, booklets were prepared which contained, on the left, the pictures in random order (of a minimum size 28x28mm) and on the right, a corresponding space to be filled in. On the first page of the booklet there was a self-report page where participants were asked to indicate their age, gender, country of origin, length of stay in Italy and reason for migration. Furthermore, information on the level of knowledge of the Italian language was added by their teachers.¹⁰

The participants' task was to write next to each picture what they thought it represented. If they could not figure out what an image represented they were asked to write down ‘don’t know’. Before the test began, participants were informed orally of the context in which they would expect to see the images. They were told they needed to work alone and not to confer with anyone while they were doing the test. It was explained that the test was anonymous and that it was not compulsory.

⁹ Legal reference: Italian Immigration Act – Legislative Decree 286/98.

¹⁰ For the purposes of the experiment, some adaptations were made to the ISO 9186-1:2014 standard report page: instead of their level of education, the level of knowledge of the Italian language was recorded, and information on the length of stay in Italy and reason for migration were also recorded.

Finally, it was necessary to ensure that all participants said they understood the instructions. Their Italian teachers assisted with this phase and in some cases explanations in languages other than Italian were offered. Furthermore, if the participants did not know a term they wanted to write, they could ask for help from the teachers who was always in attendance throughout the test (English and Spanish were also used as bridging languages). The time limit was two hours, but all participants completed the written test within a time range of 1 hour to 1 hour 40 minutes.

With regard to the oral tests conducted with the A1 level participants, an interviewer showed the participants individually the images one at a time and recorded on paper the answers to the question 'what does this image represent in your opinion?'. Given these participants' low level of knowledge of Italian, in some cases it was necessary to ask further questions to understand which object, action or concept the participant had identified, trying not to influence their answer. Each interview lasted about half an hour. In an A1 class, the written test was also tried out. In this case, the participants wrote the answer using the translator on their mobile phones when they did not know the Italian words corresponding to the picture, or they asked the teacher for help.

3.5.3 Test results

Responses of the test were categorized as follows:

1. Correct: In cases where the answers given indicated that the meaning of the picture was fully understood;
2. Almost correct: These are responses showing that the general meaning of the picture was understood, but not the specific meaning (e.g. if the response was 'send a document' instead of 'send a residence permit');
3. Wrong: This category includes incorrect answers but also those where the referent of an image was identified (e.g. a family holding a coin) but not the intended meaning (family income);
4. Don't know: When 'don't know' was the response;
5. No response: Where the answer space was left blank.

As can be seen from the response graph below, which gives an overview of the results, the image comprehensibility test with users brought good results on the images comprehension scale. Over half of the responses, in fact, were correct on 67% of the images tested. From this graph, it can also be noticed that there is uniformity of response with regard to completely understood images ('correct' responses, indicated in dark green) and those completely not understood ('wrong' responses, indicated in orange). In both cases, the images were either fully understood or not understood by almost all respondents.

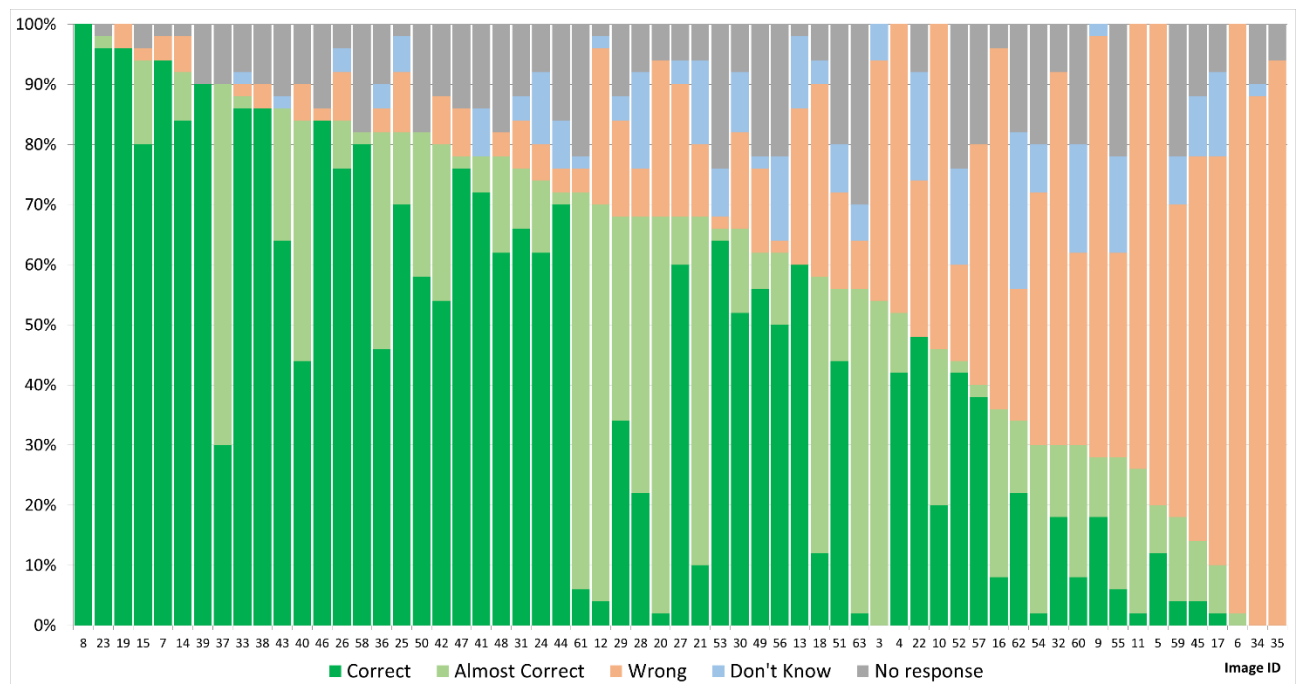


Figure 6: User testing responses ordered in terms of correctness of the answers.

However, the most significant results of the user testing were not quantitative but qualitative. The qualitative results, in fact, stem from certain images that proved difficult to understand and which provided interesting insights.

These insights are outlined as follows:

1. *Images of documents or situations typical of the Italian context, recognized only by those who were in Italy for a longer time, helped to recall previous knowledge.* This was the case, for example, with images representing Italian documents (such as the health card, the tax code, the tax stamp) or specific situations (such as sending the application for a residence permit to the post office or doing the interview for international protection). These documents or situations were of course only identified by those who had experienced them. From the oral interviews it was gleaned that these people, prompted by the images, identified their meaning by linking them to experiences they remembered (e.g. 'This is a health card, they asked me for it at the hospital, but I didn't have it yet. Now I finally have it').
2. *Images were sometimes interpreted differently by people from certain countries.* Two images in particular were misinterpreted by people from the same countries: the image representing the 'large family' (consisting of mother, father and four children) that was identified just as 'family' and the image for 'husband and wife' (man and woman embracing) that was more recognised as 'friends'.
3. *Images representing temporal concepts were not well understood.* Almost all the participants did not understand the meaning of all five images intended to represent temporal concepts (expiry of residence permit, deadline for permit renewal, deadline for declaring entry into Italy, office appointment date and general expiry of a document).
4. *Images representing actions were sometimes not perceived as actions.* For example, the image intended to represent 'paying the rent' (a rental contract together with a hand holding a wallet with banknotes) was interpreted only as 'rent'. Similarly, the computer showing a document, the @ symbol and the 'send' button was not correctly identified

as 'sending a document by email', but often just as 'computer'. On the other hand, the action was well identified when it was embedded in a scenario (e.g. in the picture representing 'sending a document from the post office', where the scene with the customer and the postal worker was shown).

5. *Some of the images were well understood in their general meaning, but not in the specific meaning that they were meant to represent.* For example, the image 'Picking up your residence permit at the Police Station' was interpreted more generically as 'Picking up a document at the Police Station' and the image depicting the date of the appointment (a hand marking a day on the calendar with a pen) was often interpreted only as 'special day' or 'calendar'. Even the employer waiting in an office in another image was not recognised as such but only as a generic person waiting.
6. *Images representing abstract concepts were not understood.* Almost all of the test participants did not understand the meaning of the pictures representing abstract concepts. For example, the 'family income' image (husband and wife with children holding a large coin) was interpreted as 'rich family' or even just as 'family'. Likewise, images representing the health services and the concept of residency were not interpreted well.
7. *Icons within the images were not noticed enough or well recognised.* For example, in the image representing the municipal residence office, an icon of a house was inserted to make the function of the office easier to understand, but some participants did not notice the icon. Furthermore, in other cases, some icons were not always recognised, such as the icons representing water, gas and electricity in the image of the utility bill or icons inserted in the image used for health services.

4. Lesson learned from the user testing

As seen in the previous paragraph the results of the comprehensibility test with the users provided insights. From these insights it was therefore possible to learn lessons on how to make the images more comprehensible for the target audience and the context considered. In the following, all the lessons learnt are presented in the form of reasoned recommendations.

Insight 1: Images of documents or situations typical of the Italian context, recognized only by those who were in Italy for a longer time, helped to recall previous knowledge.

Lesson learnt 1: Documents or scenarios that are typical and specific to the new host society were easily recognized by those who had already experienced them so it could be useful to depict these kinds of images to help them call on previous knowledge. Furthermore, these images can also help more recent migrants to learn what things (such as documents) or places (e.g. public offices) look like.

Insight 2: Images were sometimes interpreted differently by people from certain countries.

Lesson learnt 2: When designing images for users from different cultural backgrounds, it is important to be aware that some images may be misunderstood due to a different interpretation of a concept. (For example, what does 'large family' mean in different countries?). In this case words should be added to the image (e.g. 'large family') to indicate what this means for the society we want to represent, or what is meant by this concept in a law (for example, Italian law defines a large family as consisting of one or two parents with three or more children).

Insight 3: Images representing temporal concepts were not well understood

Lesson learnt 3: A figurative image is hardly able to represent a temporal concept. For this type of content, other visual representations such as diagrams or timelines should be used (Pontis, 2018, pp. 164-165).

Insight 4: Images representing actions were sometimes not perceived as actions.

Lesson learnt 4: As it is also known in the literature, depicting objects or things is more direct than depicting relations among objects (Tversky, 2001, p. 87; Van der Waarde, 2018), so representing actions using pictures may not always be effective. As the testing showed, it seems to be easier to understand actions when they are embedded in a scenario that includes the actors performing the action. It is therefore advisable, where appropriate, to present a complete scenario, creating narrative-images (Fontaine et al., p.16).

Insight 5: Some of the images were well understood in their general meaning, but not in the specific meaning that they were meant to represent.

Lesson learnt 5: Images that are intended to represent very specific aspects or situations must themselves be specific and detailed so as not to give rise to an understanding of more general meanings. The image 'Picking up your residence permit at the Police Station', for example, should clearly show that the document in question is a permit to stay.

Insight 6: Images representing abstract concepts were not understood.

Lesson learnt 6: Abstract concepts are difficult to represent with pictures alone (Maaß, 2020). Therefore, one or more words should be added to the image to declare the intended concept. The word(s) may not be understandable to the target audience but pairing it with a picture can help users grasp its meaning. Even though this term may be unfamiliar to the target audience, its meaning can be made easier to understand by associating it with a picture. This might also allow the image to be learnt.¹¹

Insight 7: Icons within the images were not noticed enough or well recognized.

Lesson learnt 7: If icons are used within pictures and one mainly relies on them to convey meaning, it is important to make sure that they are easily recognizable and interpretable by the target users from different countries, even if standard symbols are used, otherwise they will not help to communicate the meaning of the images.

5. Final considerations, limitations and future work

The activity described focused on the design of images to be used to support the comprehension of Easy Language texts explaining administrative procedures to migrants who have recently settled in the host society. The aim of the activity was to experiment a method for designing effective images for these specific target users and context (see section 3.1 'Design phases').

The work carried out indicated that human-centered design was an effective approach for designing the images, due to the fact that throughout the various phases this approach provided input to improve the images for better understanding and consequently produced good results on the image comprehension scale (as seen in section 3.5.3 'Test results'). More importantly the iterative process of prototyping, testing and the redesign of the human-centered approach made it possible to gain useful insights from which additional recommendations were derived to increase image clarity and on how to represent different

¹¹ For reflections on image learnability, see Rossi & Lenzini, 2019.

types of concepts for the specific target group and text context considered (as seen in section 4 ‘Lesson learned from the user testing’). The evaluation phase of the images with the mediators was also a source of important suggestions on how to make the images more comprehensible for the target users and improve their intercultural appropriateness, as seen in section 3.4 ‘Focus-group with linguistic and cultural mediators’.

Finally, the whole activity provided an opportunity to reflect on the methodology used and to refine it, particularly with regard to the composition of the user sample and to the administration of the comprehensibility test. In terms of the composition of the user sample, the results of the test suggest excluding B1 level users from the sample and leaving only A1 and A2 users. This is because migrants with a B1 level have lived in Italy the longest. These users reached much higher levels of comprehensibility on the test than the others, especially on images related to Italian places and documents (see the table below) and may have been helped by their prior knowledge of Italian society. Excluding this type of user is also appropriate because people with a B1 level are not usually considered recipients of texts in Easy Language (Ahrens, 2022).

% of image comprehension (correct + almost correct responses)	A1 + A2 levels	B1 level
Italian places (7 images)	65%	89,7%
Italian documents (9 images)	61%	84,6%

Table 4: Comparison of image comprehension results between A1+A2 and B1 levels.

With regard to the execution of the test, the activity conducted indicated that the number of images to be presented should be reduced and differentiated according to the level of knowledge of the second language. The process of writing down (or orally expressing) the meaning of the identified image, in fact, takes longer for the lower levels (in some cases users needed more time to consult automatic translators or ask the teacher for the Italian word in question). Keeping this in mind, fewer pictures should be submitted for the A1 level because some users became too tired and did not complete the questionnaire.

Finally, as concerns the modality of the comprehensibility test, it was found that the oral interview provided much more information than the written questionnaire. In particular, what the respondents said during the test made it possible to investigate why certain pictures were not well understood (for example, it was found that icons in images were not sufficiently noticed or recognised, and that words in some images were not understood) and discover that some images enabled users' prior knowledge to be activated. However, it must be considered that oral tests require more time and more human resources.

Some limitations of the experimented image design method should also be reported. Regarding the target group involved, time and financial constraints of the project made it impossible to test the images with people of all the most representative nationalities in Italy¹² (such as Filipinos and Moldovans). Similarly, intercultural mediators who worked with users from Georgia, Iraq, Russia, South Korea and Ukraine were absent from the study, despite users from these countries taking part in the image comprehensibility test.

¹² Data on the most numerous foreign nationalities in Italy can be found on the website of the Italian National Statistics Institute (ISTAT) www.istat.it

As concerns limitations in user testing, another issue could be the possible misinterpretation of the results in cases where the participants recognized the pictures but did not describe them accurately because they did not know the terms and did not seek linguistic help offered by the teachers (see section 'Test method').

Finally, a limitation of the evaluation of the comprehensibility of the images might be that they were tested out of their context (the texts they were supposed to illustrate). However, it should be taken into consideration that the aim of the test conducted was to focus on the images and see if they could be understood by themselves, independent of the text they were supposed to illustrate.

In the continuation of this work, the images that did not achieve 66% of correct responses¹³ will be modified by the designers taking into account the lessons learned from the user testing. Subsequently, the role of images in text comprehension will be evaluated by conducting tests on the texts combined with the images. This could lead to the possible need for additional modifications to the images and design recommendations, in line with the iterative nature of the human-centered design approach (Rizzo, 2020).

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¹³ This is the criterion of acceptability on the Comprehension Test adopted by ISO/TC 145/SC 1 for testing of public information symbols, cited in the reference annex of ISO 9186-1:2014.

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Appendix I - Selection from the 61 images shown to participants during the image comprehensibility test

In the following, two sample images are shown for each of the categories listed on page 6 of the article.

Actions



To send a document from the post office



To register fingerprints

People



Family doctor



Large family

Places



School canteen
Documents



Office of the Prefecture



Health card



Utility bill

Timings



Deadline for permit renewal



Appointment date

Abstract concept



Family income



Health services