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ARTICLE

Assessing the effects of *Language for all*

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Abstract

Language for all is a method developed in the Netherlands for providing information in such a way that as many intended readers as possible both comprehend and accept this information. Readers include people with a large variety of reading abilities including people with low literacy skills. *Language for all* can be characterized as a more accessible variant of plain language with some characteristics of easy language.

In three studies the comprehension and acceptance of and preference for texts written in *Language for all* was evaluated, comparing original texts with a version in *Language for all*.

Information written in *Language for all* was significantly better understood and accepted, and was preferable to the original version.

In conclusion, *Language for all* is a promising effective, inclusive, and comprehensive method to provide information to people with and without low literacy skills. Further research is recommended.

Keywords: acceptability; comprehension; easy language; *Language for all*; literacy skills; plain language; reading ability; reading skills

1. Introduction

1.1 Low literacy in the Netherlands

Literacy is about reading and writing, and also about comprehension of information, being able to use information, and deciding whether or not to take action (Fouarge et al. 2011). About 2.5 million adults in the Netherlands have low literacy skills (Algemene Rekenkamer 2016). That is about one in six adults and comprises approximately 18% of the Dutch adult population (from age 20). For 55% of those with low literacy skills, Dutch is their native language (Algemene Rekenkamer 2016). People with low literacy skills have difficulties in reading, writing, and problem solving, and encounter barriers in tasks such as applying for a government service or social service, buying a house, banking, and proper use of medication, as well as in completing their education and participation in the labour market. Since many services and activities of daily living use the internet today, limited digital skills can

also be a huge problem for people with low literacy skills (Baay, Buisman & Houtkoop 2015). The Dutch Government in 2020 introduced a five-year national plan of action for addressing low literacy (Van Engelshoven, de Jonge & Knops 2019). While this plan focuses on improving literacy skills, there will always be a large group of people whose literacy skills will be or stay low (Sociaal Economische Raad 2019). Further, recent research shows that the reading skills of Dutch students are diminishing (Van Nieuwstadt 2019). In the latest 2018 PISA survey, Dutch students achieved a score of 485 points on reading comprehension, eighteen points below the 2015 scores.[1] This score is the lowest since the PISA surveys started, and as a consequence the Netherlands is ranking now slightly below the average of the 37 member countries of the Organisation for Economic Co-operation and Development (OECD).[2] On top of that, reading inequalities among pupils in the Dutch education system are increasing, impacting the weakest readers most negatively (Van Nieuwstadt 2019).

Because of all these developments, aiming solely at improving literacy skills will not be sufficient to promote social inclusion and participation of as many people as possible. It stresses the importance for government, business, and (public) healthcare organizations to alter their communication strategies and to provide understandable information for as many people as possible. Until now, in many cases information in the Netherlands has been presented in a format that is too complex and in which the characteristics and abilities of the intended readers do not receive enough consideration.

Several studies have shown that government agencies use texts that are too difficult for many intended readers. The Dutch Human Rights College found that 36% of the people with a low educational level do not completely understand government information, or feel insecure about it. This is also the case for 23% of people with an average educational level and for 5% of people with a high educational level (College voor de Rechten van de Mens 2020). Another study of government information for people with financial problems shows that for 62% of poorly educated readers, the language used is (too) difficult and these readers do not know how to follow up on the information provided by the government. Many government texts discourage readers because of their length and cause a lot of stress because of their incomprehensibility. As a consequence, these people are not helped and are at risk of even bigger (financial) problems (Pander Maat & van der Geest 2021).

For some years government and private organizations in the Netherlands have paid increasing attention to promoting writing in a more accessible way. Many initiatives, however, are mainly limited to avoiding or replacing difficult words, shortening sentences, and using an active voice. In numerous courses comprehensible writing is taught, but the information they provide is by no means always based on sound research results. Many of these initiatives focus only on those who can at least read at a Dutch 2F level, which is loosely comparable to the B1 level of the Common European Framework of Reference for Languages (CEFR). The CEFR framework denotes the reading, speaking, and listening skills of people for learning a foreign language and is not designed to assess textual difficulty for native speakers (Janssen 2013).

A Dutch framework was introduced to assess native Dutch literacy skills more accurately (Meestringa & Van der Leeuw 2010). Within this framework, literacy

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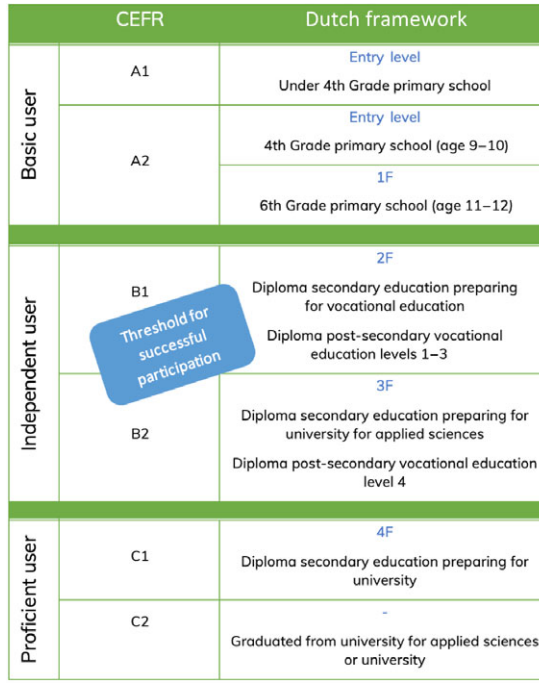

Figure 1. Comparison of the CEFR and Dutch frameworks.

skills (reading, speaking, and writing) can be classified for young learners in the Dutch education system (Meijerink et al. 2009). For successful participation in daily life, people should at least have mastered the 2F level, roughly comparable – as mentioned above – to the B1 level of the CEFR (Meijerink et al. 2009). All people with literacy skills below the 2F level are classified as having low literacy skills (Buisman & Houtkoop 2014). See Figure 1 for a comparison of the two frameworks.

Government and organizations providing information at a 2F level exclude people with low literacy skills from their communication (Janssen 2013). Another issue with the way information is provided by (government) organizations at the moment is that often little attention is paid to testing the comprehension and acceptance of the material by the intended recipients. If the information does not match a reader's prior knowledge and language level, it is difficult to achieve real (deep) comprehension (Kintsch & Van Dijk 1978, Van Dijk & Kintsch 1983, Kamalski et al. 2005, Kintsch & Rawson 2005, Frank et al. 2007, Land 2009, Sikkema et al. 2017, Kleijn 2018).

1.2 Low literacy and service use

While 18% of the Dutch adult population have low literacy skills, this percentage is even higher in some districts of the cities of Rotterdam (36%; CINOP et al. 2015) and Amsterdam (37%; Piersma 2016).

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Research has shown that people with low literacy skills are more likely to receive social benefits, rely more heavily on care services, and have a greater chance of being unemployed. As a consequence, these people more often experience poorer health and have a greater need of care and support (Buisman et al. 2013, De Greef & Segers 2016, Velthuijsen & Schaufeli 2018). Professionals working with people with low literacy skills provide them with a large amount of information that needs to be acted on for safety reasons (medication), financial reasons (avoiding fines and financial problems), or reducing stress. Research has also shown that people with average-to-good literacy skills also benefit from clear communication (Meppelink 2016). Interesting with regard to web design is the research finding by Schmutz, Sonderegger & Sauer (2019), who have shown that considering accessibility in website design for disabled users may provide a wide range of benefits for non-disabled users too. Being able to comprehend information is of utmost importance for all intended readers, not just those with low literacy skills. Van Boom et al. (2016) found that an easy-to-read text increased the trust and confidence of all consumers. It would help if all service users, with or without literacy problems, were able to easily understand the (impact of the) information provided. This would benefit the provider of the information as well, because clarification questions would likely diminish and the information would likely be acted upon.

1.3 Miscommunication

When people with low literacy skills are included as intended readers of a message, the risk of miscommunication also needs to be considered. Many of them have less understanding of words and grammar, less knowledge about synonyms for a word, a diminished working memory capacity for processing information, little prior knowledge, and many of them lack the ability to easily see connections between the information they already possess and the new information they are provided with. In addition, there are often also problems with making connections between text fragments. People with a small knowledge base have trouble comprehending new information (Kintsch & Van Dijk 1978, Van Dijk & Kintsch 1983, Kamalski et al. 2005, Kintsch & Rawson 2005, Frank et al. 2007, Land 2009, Sikkema et al. 2017, Kleijn 2018). That is also why only translating difficult words and sentences into more common used language is not enough to help them to understand the text. Providing text connections between text fragments is now emerging as an approach to addressing miscommunication.

1.4 Words and sentences

What is simple and understandable in a text is determined by the reader, not the writer. Professionals do not always realize that they are using jargon and expert language, or they provide too much information at once (including unnecessary information) and assume wrongly that procedures familiar to them will also be familiar to the intended readers.

It is very important that intended readers feel addressed by the information they receive, understand the content, and are able to follow up on the information so that, for example, they arrive at appointments on time and with the right

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documents. Sometimes health can be in danger if someone does not understand information (well enough), for example with regard to medication or safety instructions. The tone of voice is also important, as no one wants to be addressed in a childish or patronizing way. As Buell and colleagues (2020) state, constructing a text's meaning needs to extend beyond a consideration of form often found in 'easy read' documents.

Prior knowledge, the need for information, and the reader's language skills influence whether they understand and will act on the information. Important factors to be considered are the complexity of the content, the use of images, the chosen form and style, and the right timing: Is the right information provided when it is really needed?

2. The *Language for all* method

2.1 Closing the exclusion gap

To meet the need to provide comprehensible information for all, including (most) people with low literacy skills, a new method, *Language for all*, was introduced in the Netherlands in 2016 (Moonen 2021).[3] The method's aim is to write information in only one version that is understandable and appealing for all intended readers, promotes (social) inclusion, and prevents segregation. Applying *Language for all* goes beyond 'retranslation' of information and includes more than 'producing a 2F/B1 level text', which is virtually impossible in any case, because – as mentioned – this classification refers to native literacy/foreign language skills and not text difficulty (Janssen 2013). The method is based on research on (mis)communication, reading, understanding, comprehending, and utilizing information using research samples with (very) low literacy skills (Van der Bruggen 2020).

Language for all closes the information gap for many people with low literacy skills, as the method is based on guidelines for making information accessible for readers with an entry level from Grade 4 onwards. This is comparable to the A1 level of the CEFR (see Figure 1). In its most widely used form known as *Language for all plus*, text difficulty can be situated between plain language and easy language which is comparable to the A2 level of the CEFR. There are additional tailored versions of *Language for all* applying (very) easy language for people with very low literacy skills or special needs in a particular setting, such as a care organization or a school for pupils with disabilities.

2.2 Phases and advice in Language for all

The *Language for all* method provides advice on (a) writing, (b) use of images, and (c) testing of information.

Regarding the writing (a), there is the possibility of making totally new material, but more often it concerns rewriting of existing material. There are three phases: preparation, structuring, and writing. In the preparation phase, preferably together with a sample of intended readers, you explore who the intended recipients are, what their (variation in) reading skills are, and what their prior knowledge is. By involving intended recipients as early as possible in the process of creating

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information, information providers connect as closely as possible with the information needs of the recipients. You also explore the purpose of the information and identify which medium is best to use (website, letter, brochure, video, animation, etc., or a combination of media). After that you start structuring the information by first pointing out the core message and then 'building' the information so that it makes sense from the recipient's point of view. Questions to answer in the structuring phase are: What information is essential? What information is redundant? What information causes confusion? What information needs more explanation? In the third phase you start writing or retranslating, following all kinds of guidelines for using words, sentences, numbers, texts, headers, and layout. These guidelines for writing in *Language for all* are in Dutch and are updated approximately every year, based on new research.

For use of images (b), *Language for all* provides a set of guidelines based on research. Images are often used in information, but their use should be considered carefully. Research on image use in relation to people with low literacy skills is limited, but some initial results show that using images can sometimes be counterproductive for understanding the information (Karreman et al. 2014, Karreman, Van Norel & Beaujean 2015, Chin & Homeyard 2017). The first question when considering images is whether the image is helpful in understanding the message of the information. The second question is whether the image makes the information more attractive and appealing. Being helpful and making it appealing can both be goals of using images. Supporting images are used in the *Language for all* method only if necessary and helpful for understanding the text. Since images as well as texts both use the limited working memory of people with low literacy skills and the features of images can distract, using images can actually reduce text comprehensibility. This should be considered carefully and be tested in cooperation with the intended readers.

The third element for which *Language for all* provides advice is in testing the new (version of the) material (c), including images. A minimum of five intended readers in each level of language proficiency (thus not only validators with language difficulties, as addressed by Bernabé & Cavalho 2022) are invited to test a concept in terms of comprehension (including taking the right actions) and acceptance. They are called testers. A set of fixed test items are tailor-made for the particular concept tested, consisting of a free recall assignment, opinion questions, open and multiple-choice questions, a sorting assignment, and cloze assignment. For some test items testers are not allowed to look at the concept text, and for others the testers can find the answer in the text. Testing is done in an individual setting with the fewest distractions possible. It is important to make the testers feel at ease, as many testers with low literacy skills are not used to – and possibly insecure about – their role as expert. Results of the testing mostly lead to adjustments in the final information, both in text and images.

More information on *Language for all* can be found on the website www.taalvoorallemaal.com/language-for-all.

2.3 Implementation

Language for all is appealing for many partners, including (non-) governmental organizations and municipalities. One of the current partners is the municipality of Amsterdam, which adopted *Language for all* for all important civic communication.

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Another partner is the non-profit organization Koraal, which provides services and educational facilities for people with disabilities in the Netherlands and is one of the founding sponsors of the method.

3. Three studies of the effects of *Language for all*

3.1 Introduction

Three studies were conducted to research aspects of *Language for all* (Timmer & Van der Hoeve 2019, Bicknese & Van der Beck 2020, Reichrath 2020). The central theme of these studies was as follows: Does *Language for all* help intended readers to understand a certain text better, and is the text appealing to them? From this, three research questions (RQ) could be distilled:

- RQ1. (Comprehension.) Do intended readers (with and without low literacy skills) comprehend information in *Language for all*?
- RQ2. (Acceptance.) Do intended readers (with and without low literacy skills) accept or appreciate information in *Language for all*?
- RQ3. (Preference.) Which version of a text – the original version or the *Language for all* version – is preferred by the intended readers (with and without low literacy skills)?

An important element in comprehension is being able to take the right actions, based on the information displayed.

3.2 Method

Three studies were conducted, two including residents of Amsterdam and one including parents of pupils attending a Koraal secondary school situated in the south of the Netherlands. These studies were relatively small and had a mix of a qualitative and quantitative design.

3.2.1 Study 1

Object. This study used a letter from the city of Amsterdam on how to submit a request to receive a personal budget (PB). A PB is an amount of money available to a citizen who needs help based on certain criteria. With this budget the citizen can freely arrange the needed help, including non-professional help. The original PB letter contained a lot of formal legal information and required knowledge of the complex municipal organization. The city of Amsterdam created a new version of this letter using the *Language for all* method and tested its comprehension (RQ1), acceptance (RQ2), and preference (RQ3) in a group of residents with various literacy skill levels.

Measures. The original PB letter and a *Language for all* version based on the original were both used in the study. The reading ability of the participants was screened using a Dutch tool (Moonen et al. 2020).

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Procedure. Each participant first completed the reading ability screening tool individually. They were then asked what experience they had with acquiring a PB. Then every participant was asked individually to read the *Language for all* version of the PB letter. Next, each participant met with an interviewer to determine the level of text comprehension using a free recall question (What is this text about?) and subsequent open-ended questions. At the end of this meeting the original version of the PB letter was shown next to the *Language for all* version and participants were asked to indicate which version they preferred. The entire procedure was audio-recorded.

Data analysis. Language level proficiency was assessed as per the manual of the reading ability screening tool (A2 level or lower and B1 level or higher). Comprehension level was measured using a global assessment of the free recall question and a qualitative analysis of open-ended questions on what follow-up actions need to be taken according to the letter. Assessment of acceptance and preference was done using a qualitative analysis of the open-ended questions on the appreciation of both the original and the *Language for all* version of the letter.

3.2.2 Study 2

Object. The second study used a letter from the city of Amsterdam informing residents with a low income that under certain conditions they were entitled to get a free laptop for children attending secondary school. The original and a *Language for all* version of the letter were tested in a two-phase study regarding comprehension (RQ1), acceptance (RQ2), and preference (RQ3) in a group of residents with a variety of literacy skill levels. In phase 2 of the study only RQ1 was addressed.

Measures. The original letter for the free laptop was used as well as a revised *Language for all* version. The reading ability of the participants was screened using a Dutch tool (Moonen et al. 2020).

Procedure. The original laptop letter and the rephrased version in *Language for all* contained three passages. The first passage was about the notification that a child was entitled to receive a free laptop, the second passage informed the reader that in order to receive this free laptop the child was required to attend a computer class, and the third passage contained instructions on how to order the free laptop. The city of Amsterdam first tested the new version of the entire laptop letter with regard to comprehensibility, acceptance, and preference in a group of citizens with a variety of literacy skills. First every participant completed the screening tool on reading ability individually. Each participant was then asked what experience they had with the subject of the research (acquiring a free laptop). Subsequently each participant met with an interviewer to determine the level of text comprehension using a free recall question (What is this text about?) and subsequent open-ended questions. At the end of this meeting the original version of the free laptop letter was shown to compare this version with the *Language for all* version, and participants were asked to indicate which version they preferred. The entire procedure was audio-recorded.

In phase 2 of this study the comprehensibility of the *Language for all* version was questioned in a telephone interview with actual addressees. In order to reduce the amount of information that needed to be processed, the *Language for all* laptop letter was split into three separate *Language for all* letters. The first letter informed the

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addressee about the right to a free laptop, the second letter informed the reader about the prerequisite computer class, and the third letter provided instructions for ordering the laptop. The letters were sent to low-income families with children in secondary education and a right to a free laptop. To assess comprehension, recipients of one of the three letters received a telephone call a few days after receiving the letter. Participants were entitled to reread that particular letter before answering questions about comprehension. Three open-ended questions were asked: (a) What is the letter about? (b) What do you have to do in order to receive the laptop? and (c) What do you have to do if you want help with the procedure?

Data analysis. In phase 2 of this study, language level proficiency was assessed as per the manual of the reading ability screening tool (A2 level or lower and B1 level or higher). Comprehension level in phase 1 was measured using a global assessment of the free recall question and a qualitative analysis of open-ended questions on what follow-up actions need to be taken according to the letter. Acceptance and preference were assessed using a qualitative analysis of the open-ended questions on the appreciation of both the original and the *Language for all* version of the letter.

In phase 2 of the study, the percentage of correct answers was calculated for each of the three questions.

3.2.3 Study 3

Object. The third study used a letter sent to parents about a pupil's suspension in use at three Koraal secondary schools located in the south of the Netherlands. In this study, comprehension (RQ1) and acceptance (RQ2) of either the original or the *Language for all* version were assessed. Since the study used a comparative research design in which the participants did not know which version of the letter they read (original or *Language for all*), preference (RQ3) was not assessed.

Measures. An original letter was used as well as a revised version of the original letter using *Language for all*. The level of reading ability was assessed by rating the self-reported educational level of the participants using the levels presented in Figure 1.

Procedure. The original letter was revised in a *Language for all* version. Initially 150 parents were asked to participate. On a random basis equally spread over the three schools, half of the participating parents received the original letter and the other half received the *Language for all* version via the postal service. Parents were not informed which version they were reading. The letter included a brief introduction to inform the parents that the suspension letter was not about their child but was for a research project. The parents were asked to participate in this project to help the school to improve the letters they send to parents, without emphasizing the importance of easy language. All parents answered multiple-choice and open-ended questions online to assess both comprehension and acceptance. Regarding the acceptance of the letters, they rated the letter they received (which could be either the original or the *Language for all* version) with regard to five elements – tone, readability, length, clarity, and credibility – on a scale from 1 (very bad) to 10 (excellent).

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Table 1. The three studies in relation to RQs

	RQ answered		
	RQ1 Comprehension	RQ2 Acceptance	RQ3 Preference
Study 1: PB letter Amsterdam	yes	yes	yes
Study 2: Laptop Amsterdam – phase 1	yes	yes	yes
Study 2: Laptop Amsterdam – phase 2	yes	no	no
Study 3: School suspension Koraal	yes	yes	no

Data analysis. The program SPSS (Statistical Package for the Social Sciences) was used to analyse the data. A chi-squared test (P-square 2-sided significance $p \leq 0.05$) was used to compare the answers to the multiple-choice questions (nominal variables) of the parents who read the original letter with those of the parents who read the *Language for all* letter. With the chi-squared test for each question the null hypotheses is tested if 'type of letter' led to the same answers overall. To test whether parents in the three different levels of reading abilities scored significantly better on the *Language for all* letter than on the original letter, Fisher's exact test was used because of the small sample sizes within these three groups (1-sided $p \leq 0.05$). To score the five elements on acceptance of the letter, the mean ranging between 0 and 10 was calculated for each of the five elements. Then independent samples T-tests ($p \leq 0.05$) (two-tailed Levene's test for equality of variances) were used to compare the rating of the five acceptability items (ratio variables) of (1) the parents who read the original letter with those of the parents who read the *Language for all* letter, and (2) different levels of reading abilities. A qualitative analysis was done on the open-ended questions.

3.2.4 Studies and RQs

Table 1 displays the relation between the three studies and the research questions answered.

3.3 Results

3.3.1 Study 1: the PB letter

A convenience sample of 18 residents of Amsterdam with different levels of literacy skills tested the *Language for all* version of the PB letter on comprehension, acceptance, and preference: 11 participants had low literacy skills (A2 or lower) and 7 participants had no literacy problems (B1 or higher score).

Based on the results on the free recall question (What is this letter about?), all 18 respondents could be assessed as being capable of comprehending the main message of the letter. Qualitative analysis of the open-ended questions revealed that for some of the participants with low literacy skills, the information was still rather difficult because of the complex underlying process and the many organizations and deadlines mentioned in the PB letter in *Language for all*. The 7 respondents without literacy problems comprehended more details than those who had low literacy, although the respondents with low literacy skills could technically read the letter quite easily and understood the main message. For example, information on which

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organization was responsible for providing the budget, the required condition to cover a portion of the cost themselves, and who to contact with questions, was well understood by all 18 respondents. Information that was more often misunderstood by the respondents with low literacy skills was, for example, information on the responsibilities and tasks of all organizations involved, and how they were related to one another, what actions needed to be taken before a certain deadline, and the abbreviations used.

For technical reasons, acceptance was only discussed with 12 respondents (6 with and 6 without low literacy skills). All 12 respondents rated the *Language for all* letter as being clear with a clean layout, well-organized, and logically structured. Eleven of 12 respondents said that the letter was pleasant to read. One respondent without literacy problems felt a little distracted by the 'simple' style of the letter ('I can't get into the flow').

Some quotes about the letter in the *Language for all* version:

'If only every letter I get looked like this, my compliments!'
'Open, clear and friendly.'
'Clear, compact and unambiguous language.'

Some quotes about the original letter:

'I'm getting anxious right away from this letter.'
'My goodness. It contains a lot of things that can go wrong.'

Since it was expected that people with low literacy skills were not able to comprehend all aspects of the original PB letter, assessment of preference was only discussed with 6 respondents without literacy problems. All 6, including the one respondent reported to be distracted, preferred the letter using *Language for all*. Some of the respondents advised adding a little bit more information from the original letter that was left out of the letter in *Language for all*.

3.3.2 Study 2: the laptop letter

In phase 1 of the study a convenience sample of 16 citizens of Amsterdam with different levels of literacy skills rated the complete *Language for all* version of the laptop letter on comprehension, acceptance, and preference: 11 participants with low literacy skills (A2 or lower level of literacy) and 5 participants without literacy problems (B1 or higher level of literacy).

Scores on the free recall question revealed that all 16 respondents comprehended the information well and understood the steps to be taken, i.e. the needed follow-up actions to actually get the free laptop. All 16 participants stated that the information in the letter was easy to understand. By analysing the open-ended questions it could be assessed that on a more detailed level 10 of 16 respondents (5 with and 5 without literacy problems) understood all aspects mentioned in the letter. For 6 respondents with low literacy skills some details in the letter, for instance information about the reimbursement of the internet costs, and the obligation that the child had to take a computer course, were difficult to understand; although all 6 understood the main message of the letter well and knew what actions to had to be taken.

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Table 2. Study 2, phase 2: percentage of correctly answered open questions on comprehension

Laptop letters in *Language for all*	% correctly answered		
	Letter 1 ($n = 16$)	Letter 2 ($n = 37$)	Letter 3 ($n = 30$)
(a) What is the letter about?	50%	89%	63%
(b) What do you have to do in order to receive the laptop?	88%	92%	88%
(c) What do you have to do if you want help with the procedure?	63%	32%	63%

Regarding acceptance, all 16 respondents found the *Language for all* letter to be clear with a clean layout, well-organized and structured, and pleasant to read. One respondent without literacy problems expressed doubts about the tone of voice of the letter, finding it too simple and 'not really for me'. The other 15 respondents said that they felt seriously addressed by the letter in a non-childish way.

By comparing the original laptop letter with the *Language for all* version, all 16 respondents preferred the *Language for all* version. The respondents stated that the original letter was 'more official, more formal and stricter than needed' and that in the *Language for all* version the process was described as more 'clear'.

In phase 2 of the study, 137 people were contacted by telephone, of which 97 were reached (others did not answer the phone after several attempts or the telephone numbers were wrong) and 83 participated in the survey (86%). The main reason for non-participation was that the people called did not remember having received the letter.

Questions on comprehension of letter 1 were answered by 16 participants, on letter 2 by 37 participants, and on letter 3 by 30 participants. For each of the open-ended questions a percentage of correct answers was calculated: see Table 2. Results show that letter 2 was best comprehended on (a) what the letter was about and (b) the needed follow-up actions. However, the information in letter 2 on (c) what to do if one needed help, was less comprehended. Overall on the three letters, 69% of the respondents stated that there were no difficulties in the letter they received. Most of the 31% who continued to find the parts of the letter they received difficult were non-native Dutch speakers.

3.3.3 Study 3: the school suspension letter

In the third study, 54 of the 150 parents contacted initially participated in the study (36%): 30 participants read the original school suspension letter (A) and 24 participants the *Language for all* version (B). Readers of letter A and B were comparable on the characteristics of level of education, gender and age and the school their child attended. In both groups, education level was equally distributed, including low, middle, and high: readers of letter A, 37% at A2 level, 36% at B1 level, and 26% at B2 level or higher; readers of letter B, 39% at A2 level, 26% at B1 level, and 35% at B2 level or higher.

Results showed that letter B (*Language for all*) was significantly better understood. Two of the multiple-choice questions were about the conditions to end the suspension: (1) what action is needed to end the school suspension, and (2) name the mandatory participants for a meeting in school. All parents reading letter

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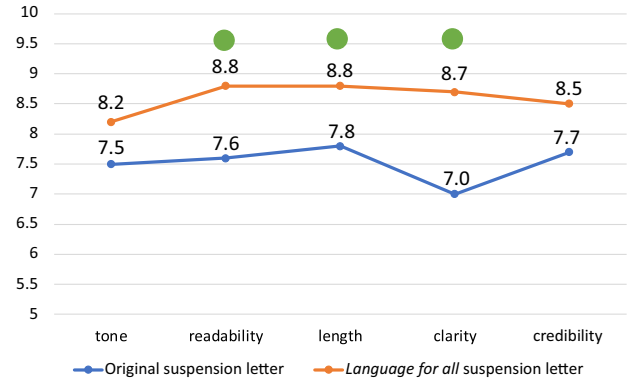

Figure 2. Results on acceptance for each version of the suspension letter ($n = 54$).

B answered question (1) correctly (100%), compared to 57% of the parents reading letter A. This was a significant difference ($p < 0.001$). Looking at the level of reading ability, there was only a significant difference for parents on a B2≥ level ($p = 0.016$). Regarding question (2) about the mandatory meeting, 88% of parents reading letter B (*Language for all)* named these four stakeholders correctly, compared to 20% of the parents who read the original letter (A). This was a significantly higher number of correct answers compared to the original letter ($p < 0.001$) and applied to all educational levels (A2 level $p = 0.001$; B1 level $p = 0.0019$; B2≥ level $p = 0.002$). Other information was also significantly better understood by parents reading letter B (*Language for all*). For example: these parents significantly ($p = 0.007$) better understood that a conversation had to take place at school if they objected to the suspension (letter A, 41% correct; letter B, 83% correct). There was no significant difference for the three levels of reading ability.

In terms of acceptance of the letter, results show that letter B (*Language for all*) was significantly better accepted on three of five elements: being more readable ($p = 0.003$), clearer ($p = 0.000$), and of better length ($p = 0.026$), despite the fact that the *Language for all* letter had a higher word count.

In Figure 2 mean scores of all five elements are presented. The green dots indicate the elements with a significantly higher score ($p \leq 0.05$). When comparing the mean scores with the three levels of reading ability (A2, B1, and B2 and higher) readability was rated significantly better by parents with an A2 level ($p = 0.027$) and clarity was rated significantly better by parents reading on an A2 level ($p = 0.035$) and B1 level ($p = 0.027$).

4. Conclusion and discussion

4.1 Summary of results

In three studies an original letter was revised in a *Language for all* version. Almost all intended readers with and without low literacy skills comprehended the content of the information provided in *Language for all* (RQ1). For some readers deeper comprehension was hampered by too complex underlying processes communicated in

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the letter or due to not being comfortable with the Dutch language. In addition, in study 3 it was shown that, regardless of their reading level, the intended recipients comprehended the *Language for all* version significantly better than the original version, resulting in better understanding of the needed follow-up actions.

Regarding the acceptance of the information presented in the *Language for all* format, the three studies showed that almost all intended readers with and without low literacy skills accepted the information presented in this format (RQ2). They rated the *Language for all* letters as being clear in regard to layout, being well-organized, and pleasant to read. A few intended readers without low literacy problems reported discomfort regarding the tone of voice used in *Language for all*, but this discomfort disappeared after reading the original letter. In study 3 it was shown that intended readers with different levels of reading abilities accept the *Language for all* version significantly better than the original version on three of five acceptance elements: readability, length, and clarity.

The results of studies 1 and 2 indicate that the *Language for all* versions of the letters were favoured compared to the original versions of the information (RQ3). Preference was not assessed in study 3.

These results should be read in context with the limitations of each of the studies. One limitation is about the classification of the participants' reading level in all three studies. In studies 1 and 2 the Dutch screening tool on reading ability was used. But a screener does not provide an exact level of reading capacity (Moonen et al. 2020). Furthermore, a recent study of the screening tool's validity shows that improvement of this screener is necessary (Luijtjes 2021). In phase 2 of study 2 the reading ability of the participants was unknown. In study 3 the reading level assigned to participants assumed a connection between the highest educational level a participant had using the Dutch framework on literacy skills (Meestringa & Van der Leeuw 2010), but reading ability was not actually tested.

Another limitation is the small number of participants in all three studies. Particularly in regard to quantitative results, this is a limitation. On the other hand, the differences in comprehension of the two versions of the letter in study 3 are very large, including understanding the needed follow-up actions. This is a strong indication in favour of better comprehension of the letter in *Language for all* and a strong advantage for both sender and receiver of the information. Regarding the quantitative elements in the three studies, a smaller number of participants is less of a limitation, because after a number of interviews saturation will occur.

A third limitation of the studies is that the actual follow-through on the information provided was not assessed. The letters of studies 1 and 2 were 'real-time', but it was not examined whether the *Language for all* versions actually led to fewer questions or to more efficiency. In study 3 the child of the parents receiving the letter was not actually suspended and parents did not really have to act on it.

The fourth limitation mentioned here of the three studies presented is that research about images was no part of the studies, as none of the letters contained images.

The last limitation mentioned is that we did not consider in our research design many aspects that influence reading, such as reading strategies, the reading situations, and the motivation to read (Fajardo et al. 2014). These can play a major role in comprehension and appreciation of written texts.

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4.2 Future research

There are some recommendations for future research. The first recommendation is to further research the comprehensibility and acceptance of information in *Language for all* and preference for either the original or *Language for all* version, in larger studies with intended readers of various levels of literacy skill and using a reading level screening tool with increased accuracy.

The second recommendation for future research is on the benefits of the *Language for all* method for both information providers and intended readers. One could say that using *Language for all* is probably a win-win situation, as demonstrated in the results of study 3 on the suspension letter. Parents significantly better understood what was needed to end the suspension, and this would probably lead to fewer mistakes and a more efficient process, with pupils attending school again sooner with less loss of administrative time. Whether this is actually true in all cases requires further research. This research should focus on the added value for both information providers and intended readers in terms of real (time) gains provided by *Language for all* compared to the information in an original version, and should include information on and/or manipulation of the reading situation and the motivation to read to assess the differential effect on all parameters.

An additional recommendation, not resulting from the three studies but leading from working with *Language for all*, is to research the effect of using images in informational material that is also intended for people with low literacy skills, regarding comprehension and acceptance. Images can help users to understand information better. But as images as well as texts increase the load on a person's limited working memory and images can be distracting, there is a risk of reduced text comprehensibility when used.

Writing texts using the *Language for all* method can help more people to understand information better, especially those with limited language skills. But more research is needed with significant results to conclusively assess this method's effect on comprehension, acceptance, and preference of information.

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Notes

1. PISA is the OECD's Programme for International Student Assessment. PISA measures 15-year-olds' ability to use their reading, mathematics, and science knowledge and skills to meet real-life challenges.

2. By the time of the latest PISA survey in 2018 there were 37 member countries. Since 2020 a 38th country has been added.

3. Language for all in Dutch is *Taal voor allemaal*. Information in English is available at: https://www.taalvoorallemaal.com/language-for-all.

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