Improving the text of a public leaflet

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In this article a provisional set of eight criteria is proposed for the analysis and the design of texts in the field of public information. To test the value of this set of criteria, an experiment was carried out concerning a Dutch leaflet on a regulation on Rent Rebate Grants. Rewriting the leaflet text did not produce satisfying results, possibly due to the high complexity of the regulation. Nevertheless, it seems that the criteria might be a useful contribution to the discussion on guidelines for textwriters.

Introduction

One of the characteristics of modern welfare states is the labyrinth of rules and regulations dealing with financial support for citizens in need. In most West European countries one finds such social benefits as scholarships, family allowance, unemployment benefits, etc.

In the Netherlands these benefits are not granted automatically. Although the government takes the initiative to remind citizens that it is their duty to pay taxes, it is left to the individual citizen to claim any benefit due to him. Citizens have to find out for themselves if they are entitled to a specific benefit. If so, they have to feel their way through the rules and regulations, and fill out endless forms to obtain their rights.

Normally, citizens do not learn about laws and regulations from the official texts, but by reading posters, leaflets, brochures, etc. These documents, published for the greater part by official information centres, are the most important information sources for ordinary people, who do not possess any specific knowledge of law. However, many complaints can be heard about these public documents. They are difficult to understand, they are boring, and reading them takes too much time and effort.

In an attempt to find possible solutions to these problems, we examined one of these leaflets: 'Individuele Huursubsidie' (regulation on Rent Rebate Grants-RRG), published by the Dutch government. RRG is a regulation which provides a contribution to the costs of rent for people whose yearly income is less than circa Dfl. 43,000 and whose rent takes up more than circa 17 per cent of their income. In 1982, approximately 550,000 families in the Netherlands received such a contribution, ranging from Dfl. 10 to Dfl. 500 a month (£1 is about Dfl. 4).

The leaflet we examined consists of 10 pages and is used by the Dutch Ministry of Housing in its publicity campaign on Rent Subsidy. The text has been changed every year because of the yearly changes in the regulation, and also several times because the need was felt to make it more understandable. Other studies had pointed out that earlier versions of the leaflet were not well understood by most readers, but we expected that the more recent versions were still too difficult. In our study we examined the 1980 and 1981 versions of the leaflet text, together with two texts and a computer program we wrote ourselves (see section 2 of this article).

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1. Writing text for a leaflet

Starting points

Leaflets and other public documents often give rise to problems, in the Netherlands and elsewhere. Many authors emphasize the lack of bureaucratic competence of many citizens, which they believe is a major cause of misconceptions about laws, regulations and bureaucratic procedures, mistakes in filling in forms, etc. Others blame the bureaucracy for its procedures and customs and, above all, its obscure language which is scarcely understandable to ordinary citizens.

Of course, both factors affect the problems, and solutions should include better 'bureaucratic education' as well as simplification of bureaucratic procedures and bureaucratic language. As the latter is carried out more easily than the former, and as we are linguists ourselves, we decided to concentrate on the language problems of the leaflet rather than on the probable insufficiencies in people's bureaucratic competence.

The content of regulations like RRG can be presented in different manners. The most important starting point should be *the main goal the intended reader has in mind*. Why does someone read a document about RRG? A civil servant will probably refer to it when judging the correctness of a claim someone made for subsidy. A landlord may read it because he has to know if (or how) he can advance the grant to a tenant who applied for it. In other words: different readers may have different goals.

In our opinion, the text of a public document should be written according to the goals of the intended readers. We call this the *functional perspective* of the text (cf. Cunnamore 1982). The choice of one perspective or another for the presentation of the regulation will have its effects on all aspects of the text: content, structure, language and format.

Since the intended reader of our leaflet is the

ordinary citizen, the text should be written from a citizen's perspective. However, this leaves open several possibilities. Some citizens will read the leaflet for general information about RRG, perhaps just to be informed about it, or to criticize the regulation. Others will have specific questions: does the regulation apply to me, and what are my rights? We call the latter citizens the (potential) consumers of RRG. They need more specific and more detailed information.

Can one text serve in both situations? In our opinion this is only possible when the content of regulation is relatively simple. But for more complex regulations we recommend differentiation in information; the government should publish leaflets with general information as well as detailed and specific leaflets to meet the needs of the consumer. In the case of RRG we decided to confine ourselves to the *consumer's perspective*. We made that choice not only because most of the people we asked told us they would read such a leaflet only if they were (potential) consumers, but also because the original leaflet was apparently written especially for that purpose.

What are the consequences of the consumer's perspective for the content and form of the leaflet text? The question of the consumer: 'Does the regulation apply to me, and how much money shall I get?' can be regarded as a problem; instructions given in the text should help the reader to solve this problem. These instructions should be algorithmic; that is, they should lead the reader step by step from his question to the one and only correct answer.

Criteria

Based on the starting points mentioned above, we formulated eight criteria for an 'ideal' leaflet text that should suit the needs of the consumer. These criteria can function as guidelines for civil servants who have to write such a text; they can also be used for analysing and criticizing a text.

1. *The text should reflect the reader's course of actions.* To answer the question cited above, the reader has to carry out a series of—mostly mental—operations, like verifying certain conditions ('Am I married?' etc.), looking for certain information (for instance the amount of his income and rent), calculating, etc.

The text should include instructions on how to do this and not merely descriptions of the rules or definitions. The original leaflet texts we examined were descriptive rather than prescriptive.

2. *The text should follow the most simple route.* The answer to the reader's question can be found in different ways as there is no indication as to the order of necessary operations. The ideal text should give the instructions in the most economic order, so that

- the number of separate operations is minimized,
- each operation occurs only once in the text,
- the results of the operations need not be revised,
- the overall structure of the text is clear to the reader.

In practice, however, these criteria are not always completely applicable; sometimes the writer has to find a compromise.

3. *The instructions should be as simple as possible.* For instance, out of the two possible instructions 'Increase your income by 15 per cent' and 'Multiply your income by 1.15', the text should give the simpler one (of course, experiments are necessary to find out which is the simpler one). Another instance is the choice between several alternative formats to present information, such as tables, flow diagrams, etc.

4. *The instructions in the text should be elementary.* The consumer should not doubt whether or not a certain rule applies to him, or how he should perform a certain instruction. Most rules in regulations are conditionals; that is, they have the form 'If X, then Y', where X denotes one or more characteris-

tics of the consumer's situation and Y is an instruction, a right, a qualification or something else. 'If your partner has an income of his/her own, then subtract 15 per cent of this income reduced by Dfl. 2275, from the amount of subsidy you have found in the table'. We call the two parts of such a rule the 'frame situation' and the 'directive part' (cf. Gunnarson 1982).

Rules are elementary if the reader is able to verify without doubt whether or not the frame situation applies in his personal situation, and if he can correctly carry out the operation mentioned in the directive part (or if he understands the qualification or right which is mentioned). Of course it depends on the reader whether or not such a rule is elementary. Strictly speaking, elementary rules can exist only in formal systems, not in real life. That is why we have to use the qualification 'elementary' in an informal or 'relative' way (Landa 1974). We consider a rule to be elementary if it is elementary to a sufficient number (say 95%) of the intended readers. The question whether or not a given rule is elementary, can only be answered by experimentation.

5. *The text should help the consumer to select the relevant passages.* Nobody will need all information in the text, so every reader should select the passages which apply to his own situation. The text can facilitate this selection process by giving explicit reading instructions ('If you are married, skip the next paragraph'), by a clear format (typography, headings), or by presenting the instructions, or parts of it, as tables, flow diagrams or programmed instructions.

6. *The text should be written in a 'direct style'.* Instructions should be directed to the reader ('you') and standard sentences should alternate with questions and commands. We believe that this will stimulate the reader to a verifying way of reading, a reading strategy which forces the reader to con-

tinuously relate the information in the text to his own situation.

7. *The language of the text should be simple.* This criterion summarizes all kinds of recommendations commonly found in textbooks on writing, like avoidance of unknown words, avoidance of long, passive and nested sentences, etc. Many books and articles are written about these questions, so we will not pay any more attention to them here.

8. *The text should correctly reflect the content of the official regulation.* Naturally, the text should contain only the information which applies to the consumer; and where necessary, it should include information to elucidate certain rules. Thus, the text should not be a mere paraphrase of the official law or regulation text. But of course the following of the instructions in the text should lead to the correct answer to the question, and not (as was the case at two places in the leaflets we examined) to an outcome contrasting with the content of the official regulation.

This completes the set of the eight criteria we propose for texts that are written from a consumer's functional perspective. We consider this list as a provisional one, and we are trying to elaborate more detailed criteria to fit practical situations. Nevertheless, we are convinced this set can be useful to writers of public documents. This claim is supported by the results of a pilot study, about which we will report in the next section of this article.

2. The experiment

The main object of the experiment we will describe in this section, was to explore the effects of the application of our eight criteria to a leaflet text. For that purpose we contrasted the performance of people who were instructed to read one of four texts on the subject of RRG.

Materials

Two of the four texts used have been mentioned

before: the 1980 (A) and 1981 (B) versions of the leaflet text, produced by the Ministry of Housing. When analysing these texts, we found that none of them met our set of criteria completely; text B, however, (the more recent version) was 'better' than text A in this respect. After trying out some preliminary concepts in a small and informal pilot test, we ourselves wrote the other two texts, C and D. Text C was a prose text in which we applied the eight criteria as strictly as possible. Text D consisted of a series of linked flowcharts presenting the questions and instructions the user had to work through to find out to how much RRG he was entitled. We chose the flowchart format because we expected it to facilitate the selection of relevant passages by the user (criterion 5). Many studies have pointed out that flowcharts are preferable to prose texts for complex instructions (Wright & Reid 1973, Kamman 1975, Holland & Rose 1981).

In summary: the four text conditions differed as to the degree they met our set of criteria. These differences led us to expect that D would perform better than C, C better than B, and B better than A.

In addition to the four texts, yet another way of presenting instructions was examined: an interactive computer program with the questions and instructions appearing on a screen. The formulation of these text passages was identical to that of the boxes of the flowcharts (text D). However, instead of following lines, the user typed his answers on the keyboard, whereas all instructions, calculations and selections were executed by the computer. Consequently, the user was confronted with only those questions and instructions that were relevant to his particular situation.

Caution is needed in interpreting the results of this computer program as opposed to the texts A-D. The activities of the users of the program seem to be rather different from those of the readers of the texts, and, what is more important, for practical reasons we could not select the subjects for the

Figure 1. One of the flowcharts in text D (the subject is the civil status of the user)

computer program in the same way we selected those for the text conditions (see below). There are two reasons which made us decide to mention the effects of the program along with the results of the four texts. First, we tried to integrate our set of criteria in the program we wrote as consistently as possible, and second, in the Netherlands there is a growing interest for the use of this kind of program in the national viewdata system 'Viditel' (comparable to 'Prestel' in the U.K.). This study might be a useful contribution to the discussion on the desirability of such a computerized method of informing citizens.

Instructions for the subjects

The following directions were given to each subject:

- Imagine you are in the position of an imaginary Mr De Vries, described in the instruction material (this description contained all the information about the personal situation of Mr De Vries, necessary to find out to how much Rent Subsidy he was entitled).
- Using the text you received (A, B, C or D; in the computer condition: using the computer terminal), determine the exact amount of RRG Mr De Vries should receive.
- Fill in a questionnaire containing personal questions referring to your age, profession, income, education etc., and questions about the experiment, such as: 'How much time did this test take you?', 'How difficult was it to find the answer?' and 'How sure are you that your answer is the correct one?'.

Subjects

In all, 761 subjects participated in the experiment. 726 were given one of the texts A-D; 35 worked with the computer. The subjects in the text conditions were part of an originally random sample of 5000 people who were asked to cooperate. It turned out that our text subjects were a little older, and, what might be more important, somewhat better educated than was to be expected in the case of a

typical selection of the Dutch population. The 35 subjects in the computer condition were all employees of the Twente University of Technology, where the computer was installed that we used in this experiment. We tried to compose a computer group that differed from the text groups as little as possible.

Results

As stated before, the main task of the subjects was to find out to how much RRG the imaginary Mr De Vries was entitled. Table 1 shows how many correct answers (Dfl. 89 per month) were given

in the five conditions: the four texts and the computer program. It also shows the modal period of time the subjects, at their own rough estimate, had needed to perform their task.

The most striking result in Table 1 seems to be the very low overall percentage of correct answers. Even though the situation of Mr De Vries, described in the instruction, was not a very complex one, no more than 6.2% of the 726 text subjects were able to determine the correct amount of RRG. The number of different incorrect answers was very high: in every group of 100 subjects who thought that Mr De Vries was entitled to RRG, 60 different

Table 1. Correct answers and mean time in the 5 conditions

Condition	Correct answers (%)	Estimated period of time, needed for the task (the mode)
Text A (n = 187)	1.1	30-60 min.
Text B (n = 187)	3.2	30-60 min.
Text C (n = 180)	6.1	30-60 min.
Text D (n = 172)	15.1	30-60 min.
Computer program (n = 35)	34.3	0-30 min.

Table 2. Education level of the text subjects, as related to the test results

Education level	Correct answers (all text subjects) (%)
Low or medium (less than secondary school) (n = 212)	1.4
High (secondary school or more) (n = 507)	8.3

Table 3. Profession characteristics of the text subjects, as related to the results. (An asterisk identifies statistically significant differences; χ^2 , $p < .05$)

Dominant professional characteristic	Correct answers (all subjects) (%)	Correct answers (text D) (%)
exactitude very important (n = 424)	8.0*	19.8*
exactitude not very important (n = 302)	3.6*	8.5*
social skills very important (n = 139)	7.9	29.0*
social skills not very important (n = 587)	5.8	12.1*
manual dexterity very important (n = 76)	0.0*	0.0
manual dexterity not very important (n = 650)	6.9*	16.4

answers were given to the question how much he should receive. This seems to indicate that there was not one particular mistake which was responsible for the many incorrect answers. In spite of this result, 88% of the subjects wrote that they were completely or almost sure that they had given the correct answer.

Another remarkable result is the difference between the text conditions and the computer condition. The computer subjects were far more successful in answering the question and needed less time to do it. But we repeat, these results are not quite comparable with those of the text conditions.

The answers of the subjects in the text conditions were subjected to a one-way analysis of variance. This indicated that there were significant differences among the groups ($F = 12.14$, d.f. = 3,722, $p < .001$). Comparisons among the groups by Duncan tests showed that there were no significant differences between the texts A, B and C, but text D (the text composed of flowcharts) proved to be significantly better than the other three.

In the Tables 2 and 3 the results of the experimental task are related to some *personal data* that could be inferred from the answers given by the subjects on the questionnaire. The subjects in the computer condition are left out of these tables; their number was too small to determine any possible relations between the test results and the personal data.

The results of the subjects with a high education level proved to be significantly better ($\chi^2 = 11.07$, d.f. = 1, $p < .001$) than those of the subjects with a low or medium education level. This outcome does not throw a very favourable light on the effects of the four texts, shown in Table 1. Compared with the average level of schooling of the Dutch population, the text subjects in this experiment were relatively well educated. Therefore, the results of a representative sample of people entitled to RRG,

would probably be even worse than the results reported in Table 1.

As far as the profession of the subjects was concerned, we investigated the relationships between the test scores and the dominant characteristic features of the subject's profession, such as verbal skills, technical insight, exactitude, artisticity, etc. We found significant relations between the overall test results and the characteristics exactitude and manual dexterity (Table 3). Apparently, people with an 'exact' profession have relatively few problems in dealing with tasks like those in the experiment, while people with a manual job have relatively many problems in this respect. It is not immediately clear what is the cause here, and what the consequence. It might be that the texts raise special problems to people with a manual profession, but it might also be the other way around: people who have literacy problems take manual jobs because they can't get any other.

A further analysis of the results did not reveal any statistically significant interactions between the distinct text conditions and the education level or professional characteristics, with only two exceptions—both concerning text D. Here, the exactitude and social skills factor proved to be an important advantage. Apparently a flowchart text like text D is particularly fit for people whose profession appeals to both exactitude and social skills. It may be no coincidence that in the public office such a combination of professional characteristics often occurs. It seems that, especially for people who are experienced in this field (for instance because they frequently have to deal with regulations like RRG), flowcharts can be an attractive alternative to the conventional texts.

Discussion

The present results indicate that our provisional set of criteria can be regarded as a useful point of departure for further research on this subject. Text D

produced 15.1% correct answers, and the difference with the other texts was significant. However, text C, which was also expected to produce better results, failed to do so: only 6.1% correct answers and no significant difference with the texts A and B. How can we explain these results, and should we reconsider our eight principles?

This is not the first experiment in which flowcharts prove to be more successful than prose texts. We already mentioned the work of Kamman (1975) for instance, who presented 16 test problems concerning complex telephone dialling instructions to three groups of subjects: housewives, random employees and high level employees. It turned out that the flowchart format produced a higher level of comprehension than a standard prose format, and that the gain in accuracy occurred very generally across the test problems and across the three levels of reader preparedness.

However, very little is known about what exactly causes the increase of comprehension when flowcharts are used for presenting instructions. Holland and Rose (1981) mention eight possible advantages of algorithms over prose instructions. Among them are: reduction of syntactic and logical structure, facilitation of partial processing and facilitation of making correct selection decisions.

To answer this question, we decided to do a small experiment with the so-called 'thinking aloud' procedure. We asked three subjects to solve the De Vries problem using text B and speaking out continually what they were thinking (for more information about this exploratory research method, see for instance Hayes and Flower, 1980). Our thinking aloud experiments provide some additional explanations of the difference in performance of flowcharts and prose texts.

First, the three subjects tended to use their prose text in a *global* rather than in a *precise* manner. When they found a cue about what to do (verify a condition, calculate), they started to do that in a

way they felt to be logical or plausible, which often was not the way the text prescribed. The precise information in the text was either left unread, or it was only read after one or more unsuccessful tries to solve the problem. In other words: the subjects guessed how to solve the problem, instead of accurately following the text.

Second, the subjects tended to *postpone* certain actions until they met with an instruction or passage for which they needed the result of these actions. Only then they performed the former action. However, in such a situation, they frequently did not read back to the original passage, but reconstructed the former instruction from memory, which of course sometimes gave rise to mistakes.

A third observation was that the subjects often read passages which were *not relevant* to the situation of Mr de Vries. Although the text offered sufficient cues (like headings and underlinings) which indicated they could skip these passages, the subjects seemed afraid to do so.

Using flowcharts seems to reduce the possibility of these types of errors. The user of a flow diagram is stimulated to immediately perform all instructions, before going on to the next instruction. Many times this is even necessary because otherwise it is not clear in which direction he should continue. Moreover, by presenting only *elementary* instructions in each block, a flow diagram does not allow the user to follow his 'own' strategy, as he seems inclined to do when reading a prose text.

If these considerations are correct, they would not only explain the difference in performance between text C and D, but they would also indicate an additional principle for writing instructional texts like the one on RRG. These texts should 'force' the user to do exactly what the instruction prescribes. A standard prose text offers too much 'freedom' in this respect; a flow diagram exactly indicates step-by-step, what to do.

The results of our investigation, along with the

observations from the thinking aloud procedure, lead to several questions for further research.

First: which means can be used in a standard prose text to 'force the reader to follow the instructions'? We think of the following possibilities:

- Stress the instructional character of the text in the introductory passage.
- 'Fragmentize' the text, so that the user has to complete each instruction before he can proceed with the next step.
- Create an opportunity for the reader to 'materialize' what he is doing, for instance by offering him a form on which the results of the calculations and decisions can be noted in a convenient way.

Second: what should a procedure for constructing effective flowcharts look like? There is very little literature on this subject. Lewis et al (1967) make some suggestions, but they are not specific enough to offer a practical set of guidelines. Other suggestions are offered by Landa (1974), but they also need further elaboration. The most detailed guidelines we found are given by Wheatley and Unwin (1972).

In conclusion: although still a lot of research is

to be done, and although our set of eight criteria does not seem to be complete yet, this provisional set already proved to offer a possible method of improving—to some extent—the results of a text used in the publicity campaign of the rather complex Regulation on Rent Rebate Grants. Therefore, we are glad to know that the Dutch Ministry of Housing has decided to issue a new leaflet text on RRG, written more in accordance with our criteria than before: the 1982 version contained several flowcharts like the ones used in text D. We also welcome the serious interest there seems to be in incorporating an interactive program on Rent Subsidy in 'Viditel'.

We fear, however, that the main obstacle to the understanding of texts on subjects like the Dutch RRG, is a matter of content rather than of appearance. As long as regulations of this kind remain as complex as they are today, it hardly seems possible to find a really successful way of explaining to people how to find out what their rights are. Perhaps the authorities should pay more attention to this aspect of public administration than they sometimes seem to do nowadays, at least in the Netherlands.

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